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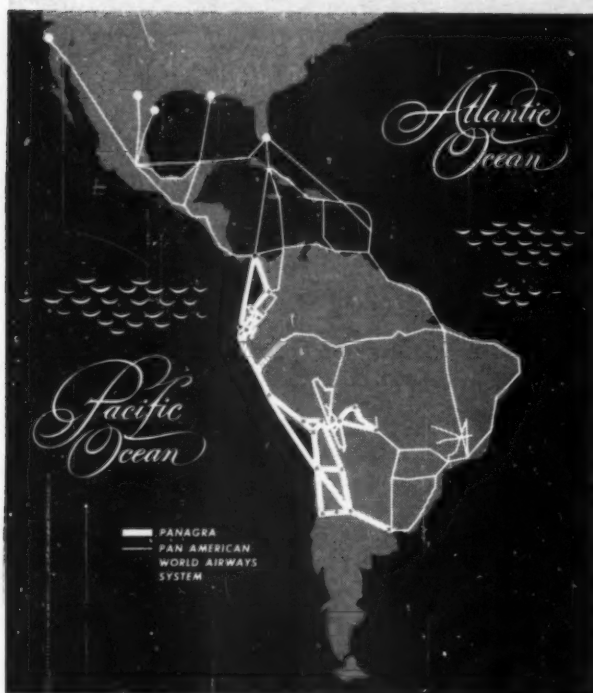


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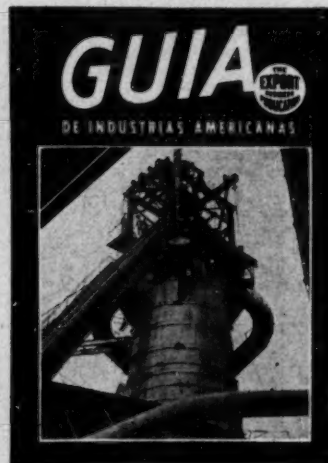
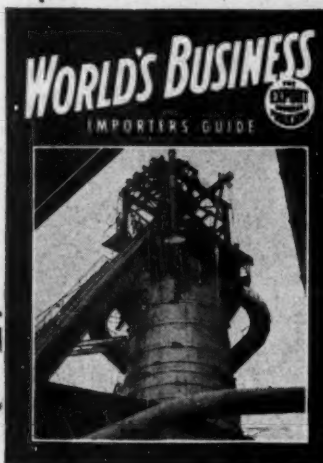
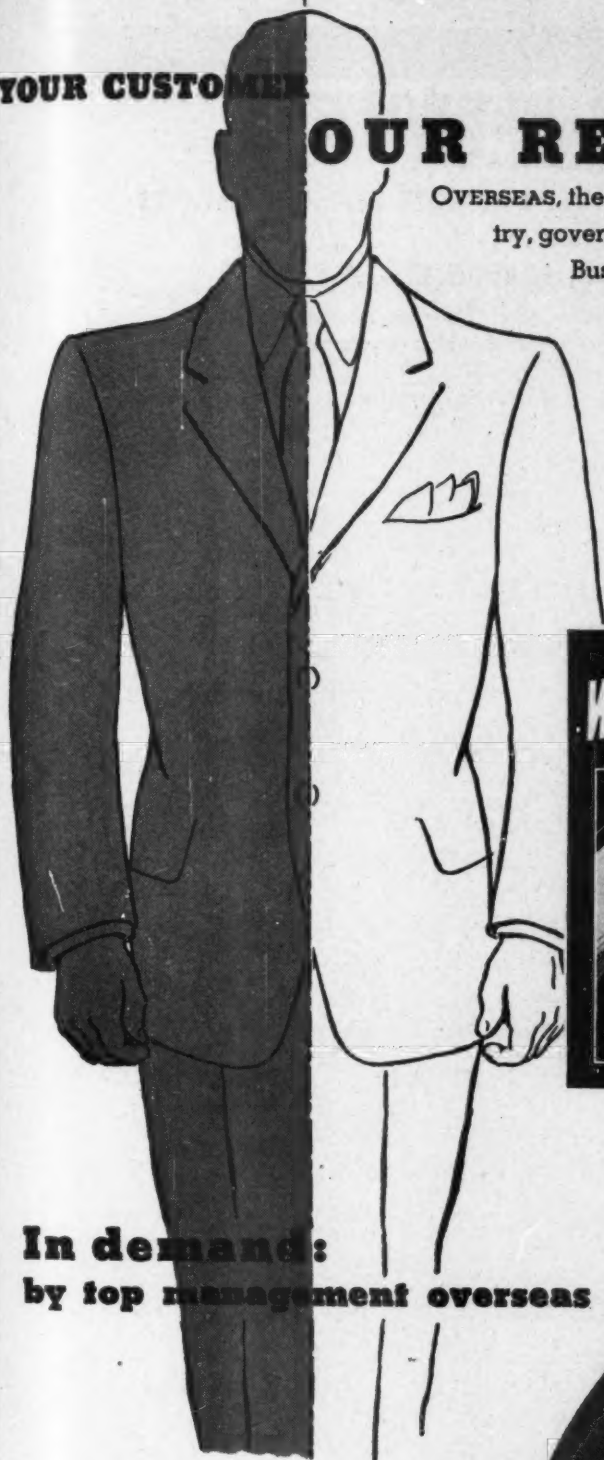
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HANGAR

Chatter

OUR private elf, Zeno McInnify, executive secretary of Elves, Leprechauns & Pixies, Inc., popped out from under his modernized toadstool this cooling month, with gracious birthday greetings for AIR TRANSPORTATION.

"Egad!" he piped. "So you chaps are starting your fifth year this October! Many happy returns of the day! Wasn't so long ago that the others gave you the horse-laugh for believing in air cargo. But you showed 'em, by gum! Cut me a slice of that birthday cake!"

A few weeks ago we espied a couple of DC-3s of Rainbow Airlines, sporting a series of hues supposedly representative of a rainbow. While we don't pretend to be any sort of a mathematical genius, we still couldn't count more than five colors. Good authority informs us that the colors of the rainbow number seven.

Looking over the recent news releases announcing the acquisition of new personnel by various airlines, a rather pregnant note is the fact that many of the men are entering the field of air transportation via steamship, railroad, and bus lines.

There is this wee tale told by a Mid-Continent Airlines hostess: A timorous woman first-flight, on her initial descent, peered out of her window and saw the flaps go down. She let out a piercing scream, and in tragic tones announced to the hostess that the wing was falling off.

And there is this one passed along by Pan Am: When the first passenger "Constellation" made the transatlantic flight, it was met at the airport in Shannon by a group of Irish dignitaries. One of the stewardesses, Romaine Cahoon, posed for newspaper photographers with the Lord Mayor of Cork.

It wasn't long before the Lord Mayor flew to New York with an Irish painting for another son of Old Erin, Mayor William D. O'Dwyer. And once more Romaine was on hand to take pictures with the mayors.

"Sure and the last time our pictures were taken together, my wife was disturbed," said the Lord Mayor to the Pan Am stewardess. "Now when she sees us together again, she will really be upset."

Last month this column reported that the restaurant paean, "One hamburger to go!" is interpreted by Newark Airport cafeteria workers as a "Russian hamburger" — because it takes a walk. We have revised our opinion of this definition. As we see it, it's not the Russian in the hamburger who's taking a walk—it's the horse!

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No. 4

AIR TRANSPORTATION

[REG. U. S. PAT. OFF.]

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1946

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THE COVER—The Boeing Stratofreighter, giant cargo plane, highlights the fast-growing business of global air shipments.

JOHN F. BUDD, Editor and Publisher

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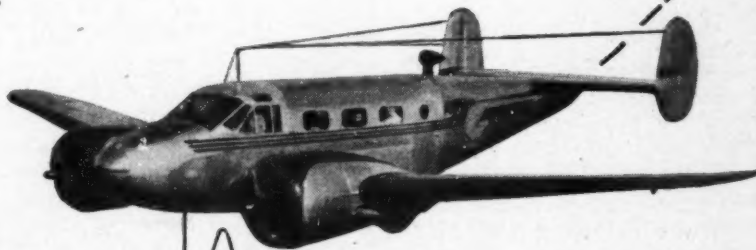
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THE readers of AIR TRANSPORTATION know full well how a new instrument of commerce — the transport airplane—increasingly served world trade during the 20 years before the war. There was a tragic hiatus during the years of the war. Now that businessmen are again bending all of their energies to the resumption of international trade, it is most appropriate that they should ask for a survey of the new facilities which international air transportation will offer them.

The principal characteristics which the user expects from air transport seem to me to be speed, regularity and punctuality, comfort and convenience, and safety. Of course, the desirability of safety is self-evident; its attainment is demonstrated by the millions of miles of safe flying accomplished by commercial and military transport aircraft before and during the war.

Speeds today are good, with numerous aircraft now in passenger service cruising as fast as 300 miles per hour. In 1947 the traveler will be offered giant, luxurious airliners, with sleeping accommodations, cruising non-stop at 340 miles per hour over distances approaching 3,000 miles. Or he may choose to travel over the same distances in sleek day-planes cruising at pursuit-plane speeds, up to 430 miles per hour.* Aided by prevailing tailwinds, aerial crossings from New York to Paris in less than eight hours will be commonplace.

Not long after 1947 we should see transport aircraft using gas turbine engines. Whether they use propellers or full jet-type propulsion, they will undoubtedly fly very much faster than the 430 miles per hour I have mentioned. Far from the art of aircraft design having encountered any natural limits, the field for future improvement is broader today than ever before. Both in the immediate future and in the long term future, international trade is certain to be facilitated by dramatic increases in the speed of the commercial airliner.

Of equal importance with speed is

By JUAN T. TRIPPE



President
Pan American World Airways

the regularity and punctuality of the air transport services offered the public. It is easy to agree that perfection must be our goal. What may not be so well recognized by the general user of air transportation is that a close approximation of this goal is nearly within our grasp. Some of the war-born devices and methods of air navigation are even now being adapted to the needs of civilian air transportation on a worldwide scale. It is one thing to determine from a technical viewpoint what combination of these devices is most practicable, and in what direction the chosen scheme should be further improved. It is quite another thing, and equally important, to work out agreements between the nations concerning the installation and operation of the chosen devices.

PICAO and IATA

Fortunately, there is an organization functioning whose purpose is to achieve both of these ends—the Provisional International Civil Aviation Organization. Working in a spirit of intimate cooperation with PICAO is the International

Air Transport Association. Representing as it does all of the international airline operators of the world, able to draw on the skill of all airline personnel, IATA has made and will continue to make an important contribution to the functioning of PICAO. It augurs well, I think, for the international air traveler that his respective governments and airline operators have been able to find such a broad ground for mutual consultation and joint decision.

The airline user expects also a maximum of comfort and convenience. Although the modern airplane already provides for him reasonably well, progress is continuing at a rapid rate. Minute attention is being paid to the comfort of seats, the adequacy of ventilation and heating, the reduction of noise, and the suppression of vibration. Thanks to the availability of new techniques, many transport airplanes are now able to fly at high altitudes, far above the weather, where the air is smooth and the sun, or the moon and stars, are displayed in all their beauty.

I have outlined some of the salient characteristics of the service which the user can expect. However, the businessman as a user of air transport must also realize that there are certain impediments which he can help to overcome.

There is, after all, more to the subject of speed than the air cruising speed of the aircraft. In particular there are two problems which can be solved only by action on a broad front. One is the congestion created by airports and airport facilities which are no longer adequate to the volume of air traffic using them. The other is the red tape which obstructs travel and which, like congestion, does much to rob international air transportation of the speed and regularity which it could otherwise provide.

Much of today's speed in the air is being lost through congestion at the airport. Methods used today for bringing airplanes down through the clouds to a safe landing are relatively good from the safety point of view, but do not handle enough airplanes in the space

* Mr. Trippe probably is referring to the Republic Rainbow.



of an hour. Devices and methods developed during the war are rapidly becoming available to improve this situation, but governments must see to their installation and operation.

In many localities, the airport itself is not large enough to cope with the present volume of airplane movements, and as a result passengers are frequently delayed in aircraft awaiting their turn to take off. Finally, in many of our great cities the problem of getting from the business center to the airport is severe, sometimes requiring almost an hour. The technical solutions to the problems of congestion and delay are not difficult but their application depends on bold and enlightened action in many countries.

Cooperation Needed

Taking the red tape out of travel will require an even greater degree of international cooperation. Much of the speed of air transportation is dissipated in border requirements having to do with passports, visas and customs. The businessman who studies the numerous border regulations which constitute such a formidable barrier to international trade inevitably comes to the conclusion that many of the formalities required today are no more than vestigial remains of bygone days. The factors making for better regularity are akin to those resulting in higher speed, hence the obstacles to be overcome are comparable.

As to comfort and convenience, I must once again point to deficiencies which are more notable on the ground than in the air. Most airport terminal buildings today are completely outgrown—or else they have not yet been built. Such as they are, they do not always function at the high standards of efficiency, cleanliness, and courtesy which the air traveler can reasonably expect. Also, ground transport between airport and city is frequently inadequate. (I am not referring to war-torn countries, where a difficult rebuilding period is understandable, but of other areas less directly affected by the ravages of war.)

The extent to which the speed, comfort and regularity of air transport can be enjoyed by the traveling public is proportional to the price which the public is asked to pay. I feel now exactly as I did in 1943 that air transportation has the choice—the very clear choice—

Top to bottom: Flying over the ruins of ancient Rome; street scene in Port-au-Prince; tobacco workers in Brazil; native feast in Hawaii.

of becoming a luxury service to carry the well-to-do at high prices, or to carry the average man for what he can afford to pay. There is no shadow of a doubt in my mind that air transportation must choose the latter course.

Fortunately, this is not a vain aspiration. The fact is that the efficiency of the transport airplane is increasing at so rapid a pace that, given a healthy world economy, reduced operating expenses per passenger-mile are inevitable. It is imperative that we aggressively seek this result. More than that, we must gear our thinking, our facilities, and particularly the philosophy on which we cooperate internationally, to the theme that a large volume of air travel is both desirable and attainable.

Let us examine this proposition in the light of the three categories of air traffic.

First, let me highlight just one phase of passenger traffic. It is useful, of course, for passengers representing large business concerns to move freely about the world in the pursuit of their duties. But it is even more important that a large number of tourists should circulate freely. The advantages, both financial and cultural, are self-evident. The airplane opens the field of world travel to a vast new group of people.

In the United States, as in many countries, millions of wage earners and salaried persons receive two week's paid vacation each year. By transatlantic airplane a typical worker can leave his job in the United States Friday evening, pick up his family, and be in Europe Saturday. He can then spend two whole weeks touring Europe, leave for home Saturday night two weeks later, and be back on his job Monday morning. Regardless of his ability to pay, time would not have permitted him to do this before. The percentage of this new opportunity for world travel which can be realized depends, in my opinion, almost solely on the ability of the air transport industry to reduce its rates.

The second category of air traffic is property or goods. The factors which influence this facility to international trade are surprisingly comparable to those affecting the passenger. Although a network of worldwide scope already has been achieved, and although air express volume has risen rapidly, the surface has hardly been scratched. The ability of the scheduled airlines of the world to carry this traffic today at prices attractive to the shipper is measured largely by their ability to put more aircraft of larger capacity into postwar service. I feel certain that in the very near future, there will be a vast expansion of the facilities offered by the scheduled airlines for the shipment of air express, air parcel post, and air

AT THE NORTH ATLANTIC TRAFFIC CONFERENCE



Meeting in Montreal last month in the fourth session of the North Atlantic Traffic Conference of the International Air Transport Association found this large group of world air transport leaders. Seated left to right are spokesmen for the voting members of the conference: Gert Meidell, DNL; G. R. McGregor, TCA; J. Stanton Robbins, AOA; V. E. Cheneq, PAA; Pierre Rousselle, Air France; John S. Thurman, BOAC; E. O. Cocke, TWA; V. H. L. Dubourcq, KLM; and Max Westphall, DDL. Sten Unne, SILA (standing, third from right), also was a voting representative. Standing left to right are: Rudolph Feick, secretary of the conference and of the IATA branch office in New York; Jack Lane, TCA; R. E. Deyman, TCA; P. S. Delaney, PAA; Walter Sternberg, AOA; H. M. Clarke, BOAC; J. D. Hungerford, AOA; David E. Midgely, TWA; J. R. Barch, TWA; J. W. Meijer, KLM; H. F. Good, BOAC; F. J. Matens, Sabena; Harold Gullensward, SILA; Unne; F. von Balluseck, KLM; and William Risley, AOA. All the seated airline men were advisers, with the exception of Matens who acted as an observer for Sabena. John E. Slater, AOA chairman, who presided over the conference, does not appear in this picture.

freight throughout the world at low rates. Contributing to this will be the innovations made before the war in the documentation of international air express, particularly the single-document for entry.

Finally, as to mail, there has been an irresistible trend throughout the world toward the carriage of all first class mail by air whenever a time saving would thereby result. There has likewise been a demand for simplification of air mail rates charged the public, as well as for a general reduction of the air postage levels. Both the United Kingdom and the European nations made significant progress before the war toward the carriage of all first class mail by air.

I do not share the habit of some people who say that air transportation creates a smaller world. As transportation and communication expand, our world grows, not smaller, but larger. Only two factors have been diminished—distance and time. All of the many other factors have expanded. With greater knowledge of distant places, with rapid new access and new communication, both duty and opportunity open wider.

The very nature of international air transport demands constant consultation, negotiation, and agreement between sovereign governments, between independent airline operating companies, and between governments collectively and airlines collectively. Without this the air transport network will break down in a moment. Within the air transport industry there are not only mutual respect and good will, not only

a high level of skill in the art of voluntary cooperation, but also real confidence in the ultimately successful outcome of any joint program whose aim is to improve the functioning of our highly interdependent world civilization.

Rates Go Down

Reductions of approximately 12½ per cent in scheduled airline fares across the North Atlantic went into effect on Columbus Day. The new fares will remain effective until February 28 of next year on all schedules operated by the voting members of the International Air Transport Association North Atlantic Traffic Conference.

The New York-London one-way fare of \$375 has been dropped for the new rate of \$325. A round trip now costs \$586.70. Five years ago a one-way flight across the Atlantic cost \$600.

Lines on which the new rates are effective include Air France, American Overseas Airlines, British Overseas Airways Corporation, KLM Royal Dutch Airlines, Pan American World Airways, Scandinavian Airways, Trans Canada Air Lines, and Trans World Airline.

Following are typical one-way rates:

FROM NEW YORK: Gander, \$104; Shannon, \$292; Prestwick, \$305; London, \$325; Paris, \$345; Santa Maria, Azores, \$247; Lisbon, \$331; Bermuda, \$70.

FROM BOSTON: Gander, \$95.65; Shannon, \$283.65; Prestwick, \$296.65; London, \$316.65; Paris, \$336.65; Santa Maria, \$238.65; Lisbon, \$322.65.

FROM MONTREAL: Gander, \$88; Shannon, \$276; Prestwick, \$289; London, \$312.

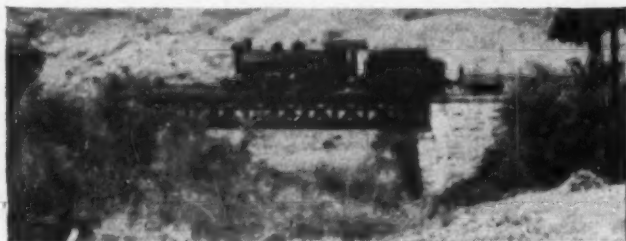
The new rate schedule includes the 10 percent discount for round trips, 90 percent discount for infants up to two years old, and 50 percent discount for children between two and 12.

Airborne Mica . . .

Leaves from the War Scrapbook of Lieutenant Commander Langdon P. Marvin, Jr.



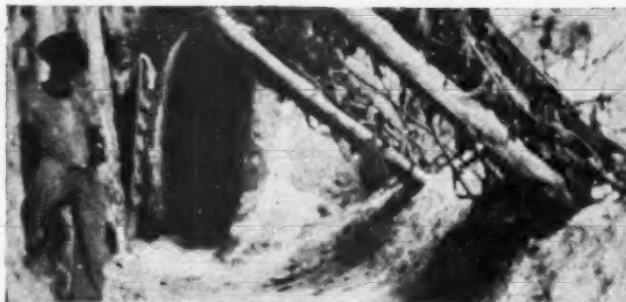
1—Gubernador Valladares in the Brazilian state of Minas Gerais way off from the Atlantic Coast.



2—To get there from Rio by train takes three days . . .



3—By plane only two hours.



4—Going back country we find a rich mica vein in a hill being worked by slow, old-fashioned methods. It has taken two years to cut into a corner of the hill.



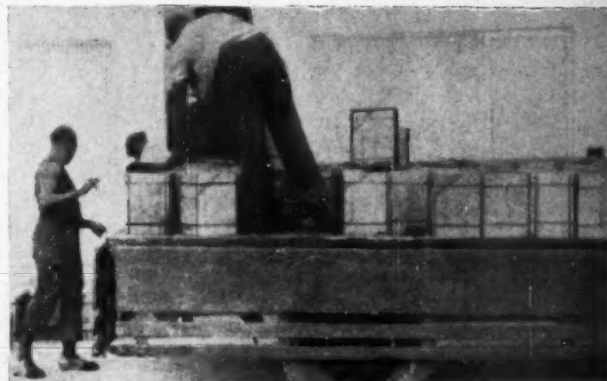
5—American engineers show the native producers how, by using modern equipment, the top of the hill can be taken off and the mica vein laid bare.



6—Mica is lifted from the ground . . .



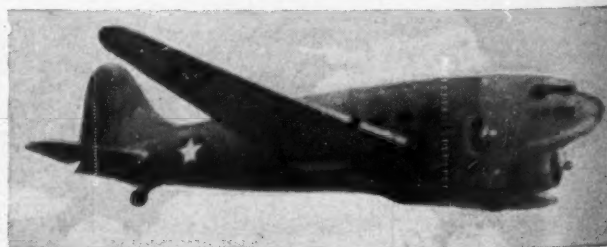
7—And sent to town where it is trimmed, graded, and packed . . .



8—For delivery to the airport . . .



9—Where it is loaded into a United States Navy transport plane . . .



10—And flown to the United States.



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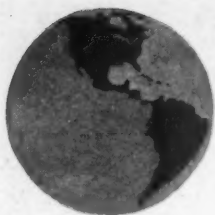
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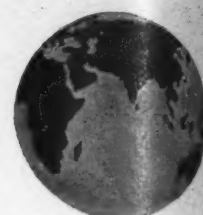
FIRST ACROSS THE PACIFIC - FIRST ACROSS THE ATLANTIC
FIRST THROUGHOUT LATIN AMERICA



Air Transportation

The Nation

And The World



An internationally recognized air authority speaks his mind on three phases of commercial aviation

By PETER G. MASEFIELD

Director of Planning and Projects, British Ministry of Civil Aviation
Former British Air Attaché in Washington, D. C.

INTERNATIONAL civil aviation on a world basis is really something quite new.

Certainly we had plenty of international civil aviation before the war. But it was cut up into a number of separate areas with no air connections between them. There was European civil aviation. There was what one might call Pan American civil aviation. There was also Russian civil aviation. And each developed separately.

But the oceans between the main centres of air transport, before the war, were barriers which the commercial airplane had not conquered on anything but a tentative basis.

All that has changed now. We are, in Kipling's words, "at the opening verse of the opening page of a chapter of endless opportunities."

The airplane has arrived as a factor in world trade and the peaceful development of nations. And the progress of aviation is hurrying forward at a faster pace day-by-day, as ever swifter and cheaper flying opens up.

Now, all of us who believe in aviation, regardless of nationality or language, believe also in the fact that air transport can be one of the most powerful

forces for peace and understanding. It can be one of the things which will draw the peoples of the world more closely together than ever before.

But, it seems to me, that in our enthusiastic discussion of detail—of the limitless future—we are often rather liable to overlook the fundamentals: the whys and the wherefores of all this great air transport business.

Why are we all engaged in civil aviation in one way and another? Why is it politically such a hot subject? Why are international civil aviation conferences so frequent and so frequently confused? What, indeed, are the underlying reasons for international air transport at all?

Clear Thinking

That old familiar saying that "you don't have to be crazy to be in civil aviation, but it helps" is no longer so true as it used to be. One of the needs of aviation today in the international sphere is clear thinking, a detached vision, and resolute action.

So what about those fundamentals?

Quite often we seem to forget that commercial aviation exists first and foremost to serve humanity, and that just the mere fact of flying a plane *ad hoc* from Timbuctu to Kalamazoo is not the "be all" and "end all" of aviation.

The purpose of commercial air transport is, I suggest, to move passengers,

freight and mail as quickly, as cheaply, as safely, and as conveniently as possible, with the necessary degree of comfort—from everywhere to anywhere else. The purpose of the airport is to give service to as much traffic as possible, although in some parts of the world airport authorities seem to take a different view.

Now it seems to me that when we try to cast aside the smokescreen of detailed discussion we come down to the fact that commercial aviation has three main purposes:

1. *Trade-by-Air* (business aviation)
2. *Travel-by-Air* (get-together aviation)
3. *National-Air* (prestige and security aviation).

Those are the "holy trinity" of civil aviation.

All three are about equally important. But one is, unfortunately, more of a problem internationally than the other two. I venture to suggest that only when all the problems engendered by that third aspect — prestige and security aviation—have been satisfactorily settled, will the first two—business aviation and get-together aviation—really come into their own.

Let us examine each of these three in turn. First of all, Trade-by-Air.

The old expression, "Trade follows the flag," can now be rewritten: "Trade follows the air route." Commercial aviation can and will promote altogether



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new traffic. The old yardsticks of surface traffic are no measure at all.

When you can fly from New York to London in less time than it took to reach Chicago 20 years ago, altogether new business prospects open up. In the business world that cliché, "time is money," is true.

Indeed, calculations made recently show that in the present state of the art, it is actually cheaper for a man who earns more than \$5 an hour to fly for distances of more than 200 miles than to travel any other way, because of the saving in time at that figure. Of course, that is in comparison with surface transport.

But the new business traffic created by air travel is probably the most important of the lot. It represents a new economic force in the world today. In my opinion it will become an exceedingly potent force measured by any standard.

So the objective of aviation in providing altogether new, faster, and, overall cheaper sinews of trade, is obviously one of its main purposes. But, important as it is, I do not rate it higher than each of the other two fundamentals.

Secondly, then, Travel-by-Air for other than strictly business purposes. Here we have what is in my view one of the major psychological contributors of commercial aviation in world affairs.

In the past the peoples of the world have tended to being wrapped up in "penny packages," each in his own environment. Apart from the commercial travelers and the wealthy globe-trotters, the average citizen has known little first-hand of the world around him. And that ignorance of world neighbors has tended to create misunderstanding and misconceptions which, if they have not led to wars, have at least not tended to prevent them.

I believe that aviation can influence all that—for better. Aviation is fundamentally international rather than national in its spread and development. That is because it soars above mundane things such as geographical barriers, and it measures distances in time of flight through the air rather than in distances across desert, rivers or mountains.

As flying progresses, as we develop faster planes which are cheaper to operate, that dream of mass air travel will become a reality. I hope that we shall reach a stage when the time taken rather than cost will be the factor in deciding a journey by air for pleasure. It's no good bringing London only 10 hours away from New York if it is going to be so expensive to go there that only the wealthy can afford it.



HIROSHIMA . . . ONE YEAR AFTER—The author strikes a somber note with his statement that "aviation is at present altogether too advanced for world politics." This is vividly illustrated by the above picture of the Japanese city which made world history when it became the first target of an atomic bomb. Even a year after the great blast, the scorched earth of Hiroshima finds few new houses being built.

One of our objectives must be to bring down that cost of air travel so that it is not merely cheaper per mile than surface transport, but so that an hour of flying is little more expensive than an hour of surface travel at its slower speed. *Then we shall really tap the world air market.*

Airborne Classes

When the school ma'am can take her class to Europe, to China, or to Latin America both quickly and cheaply, then aviation is beginning to exert an influence on world affairs more potent than all the political wrangling in a decade.

That brings us to the third fundamental—National Air—one of the most thorny subjects today. It is the reason for the breakdown in the Chicago Conference, and it is the reason that the

air is not cleaner today than it is.

The trouble about it all is that, as I have written, aviation is fundamentally international. It has arrived in a world which is still strictly national in the outlook of its individual states. That is, at present, inevitable. In world affairs we are still at the pioneering stage. Each community has its own stockade, its own cabbage patch in the backwoods, certainly now its plough in its hand. But the rifle hangs at the door, and the ploughman is ready to grasp the rifle at the least suspicion of redskins lurking in the underbrush—or even if he suspects that the fellow owning the next log cabin has pushed his cabbage patch out too near.

I am afraid that we are still some way off from joining all those pioneer backwoods-ploughmen together, from their little national settlements, into a United States of the World. Perhaps if we

SPEEDBIRD Geography QUIZ

Can you name the countries, dominions, colonies or territories in which the following 96 places are located?



HOW TO SCORE

80 or better . . .
You've been cheating, old thing.
60 to 80 . . .
Good show, lad!
45 to 60 . . .
Better have another go at it, old boy!
Under 45 . . .
There's room for improvement, you know.

- | | | |
|-------------------|----------------------|------------------|
| 1. Accra | 33. Frankfurt | 65. Marseille |
| 2. Addis Ababa | 34. Freetown | 66. Masira |
| 3. Aden | 35. Glasgow | 67. Milan |
| 4. Amsterdam | 36. Göteborg | 68. Montreal |
| 5. Ankara | 37. Gwalior | 69. Mozambique |
| 6. Asmara | 38. Hamburg | 70. Nairobi |
| 7. Athens | 39. Hamilton | 71. Nicosia |
| 8. Auckland | 40. Hargeisa | 72. Paris |
| 9. Augusta | 41. Helsinki | 73. Pointe-Noire |
| 10. Baghdad | 42. Hong Kong | 74. Port Etienne |
| 11. Bahrein | 43. Istanbul | 75. Port Bell |
| 12. Bangkok | 44. Jidda | 76. Port Sudan |
| 13. Basra | 45. Jerusalem | 77. Prague |
| 14. Bathurst | 46. Jiwani | 78. Rabat |
| 15. Beira | 47. Johannesburg | 79. Raj Samand |
| 16. Beirut | 48. Juba | 80. Rangoon |
| 17. Berlin | 49. Kamaran Island | 81. Riyan |
| 18. Bordeaux | 50. Karachi | 82. Rome |
| 19. Bowen | 51. Khartoum | 83. Salala |
| 20. Brussels | 52. Kisumu | 84. Salisbury |
| 21. Cairo | 53. Lagos | 85. Shannon |
| 22. Calcutta | 54. Laropi | 86. Singapore |
| 23. Copenhagen | 55. Léopoldville | 87. Soerabaja |
| 24. Damascus | 56. Libreville | 88. Stavanger |
| 25. Dar es Salaam | 57. Lindi | 89. Stockholm |
| 26. Darwin | 58. Lisbon | 90. Sydney |
| 27. Deauville | 59. London | 91. Takoradi |
| 28. Delhi | 60. Lourenço Marques | 92. Teheran |
| 29. Douala | 61. Luxor | 93. Tripoli |
| 30. Dubai | 62. Madrid | 94. Wadi Halfa |
| 31. Durban | 63. Malakal | 95. Vienna |
| 32. El Adem | 64. Malta | 96. Zurich |

THE NAMES above were not chosen at random or merely to trip you up. All these places, famous or obscure as they may be, figure in world travel and trade. All are linked with New York City by BOAC and such associated airlines as its companion company, BEA (British European Airways). With some 20,000 staff

manning the 70,000 miles of Speedbird Routes "over the Atlantic and across the world", BOAC is well prepared to advise and assist those concerned with travel or shipping to the points listed.

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HERE ARE THE ANSWERS

1. Gold Coast Colony 2. Ethiopia 3. Arabia 4. Netherlands 5. Turkey 6. Eritrea 7. Greece 8. New Zealand 9. Sicily 10. Iraq 11. Persian Gulf 12. Sham Settlement 13. Iraq 14. Gambia 15. Mozambique 16. Syria 17. Germany 18. France 19. Australia 20. Belgium 21. Egypt 22. India 23. Denmark 24. Syria 25. Tanganyika 26. Australia 27. France 28. India 29. French Cameroon 30. Aden Protectorate 31. Natal 32. Cyrenaica 33. Germany 34. Sierre Leone 35. Scotland 36. Sweden 37. India 38. Germany 39. Bermuda 40. British Somaliland 41. Finland 42. China 43. Turkey 44. Arabia 45. Palestine 46. India 47. Transvaal 48. Anglo-Egyptian Sudan 49. Red Sea 50. India 51. Anglo-Egyptian Sudan 52. Kenya Colony 53. Nigeria 54. Uganda 55. Belgium Congo 56. Gabon 57. Tanganyika 58. Portugal 59. England 60. Mozambique 61. Egypt 62. Spain 63. Anglo-Egyptian Sudan 64. Mediterranean Sea 65. France 66. Arabia 67. Italy 68. Canada 69. East Africa 70. Kenya Colony 71. Cyprus 72. France 73. French Equatorial Africa 74. French West Africa 75. Uganda 76. Anglo-Egyptian Sudan 77. Czechoslovakia 78. Morocco 79. India 80. Burma 81. Arabia 82. Italy 83. Arabia 84. Southern Rhodesia 85. Eire 86. Sindh 87. Netherland East Indies 88. Norway 89. Sweden 90. Australia 91. Gold Coast Colony 92. Iran 93. Tripolitania 94. Anglo-Egyptian Sudan 95. Austria 96. Switzerland

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AVIATION'S INFLUENCE—"When the school ma'am can take her class to Europe, to China, or to Latin America both quickly and cheaply," writes Masefield, "then aviation is beginning to exert an influence on world affairs more potent than all the political wrangling in a decade." Here three teen-age girls, watching a TWA Constellation in flight, grasp this vital message.

could get some redcoats from Mars to try to levy taxes on all the fruits of our national labors, we should band together at once and draw up a World Constitution and a Declaration of World Independence.

Be that as it may, *aviation is at present altogether too advanced for world politics.*

It is up to those in aviation to try and influence the world with our international aviation concept rather than to let the world kick aviation about as has happened so much already. But in all this idealism we must recognize the practical fact that in the world, as it is today, there is a national *need* for aviation—for national aviation as opposed to international flying. And I use the words "as opposed to" advisedly.

Now what is this so-called national aviation?

It is, first of all, a security measure. I subscribe to the point of view that aviation is no threat to world peace—very much the reverse. I believe that aviation is a "good thing, and that the more of it there is the better it is for the world." But—and it is a big "but"—there can be no doubt that with the advent of the pilotless weapon, the guided missile, and the atomic bomb, the importance of the Troop Carrying Command of any nation's air force, has been reenanced as a vital factor in a nation's security.

Civil aviation, then, enters the picture on three counts from a national point of view.

Three Points

1. It keeps alive a trained and active aircraft industry ready to turn to military affairs in times of stress.
2. Design of long-range passenger carrying planes bears a close resemblance to the design of troop-carrying aircraft. Money spent on the national development of the one influences the military development of the other.
3. In the civil air fleets of a nation there is an important troop-carrying reserve, both of aircraft and of crews.



LOADING THE DOVE—Illustrating the plane as a servant of the people is this BOAC Dove light transport which takes on air express at an airfield in England.

All this means that the civil aviation of a nation in this postwar world has an influence on the nation's security which cannot be ignored. It means that nations will be eager to develop their civil aviation and their civil manufacturing industry not *only* for purposes of trade and travel; but, I trust, that trade and travel will remain the most compelling forces.

Then, there is the prestige aspect. It is a difficult aspect to assess. The business of "showing-the-flag" on the air routes of the world is important as a shop window of the nation from which the plane comes. No first-class nation can afford to let all its national trade eggs be carried in somebody else's flying baskets.

That explains to some extent why international commercial aviation is so important in the life of any healthy nation today. There, in essence, you have the three basic objectives of international air transport. Which leads us to that \$64 question again—the question which has been at the root of all international disputes over civil aviation:

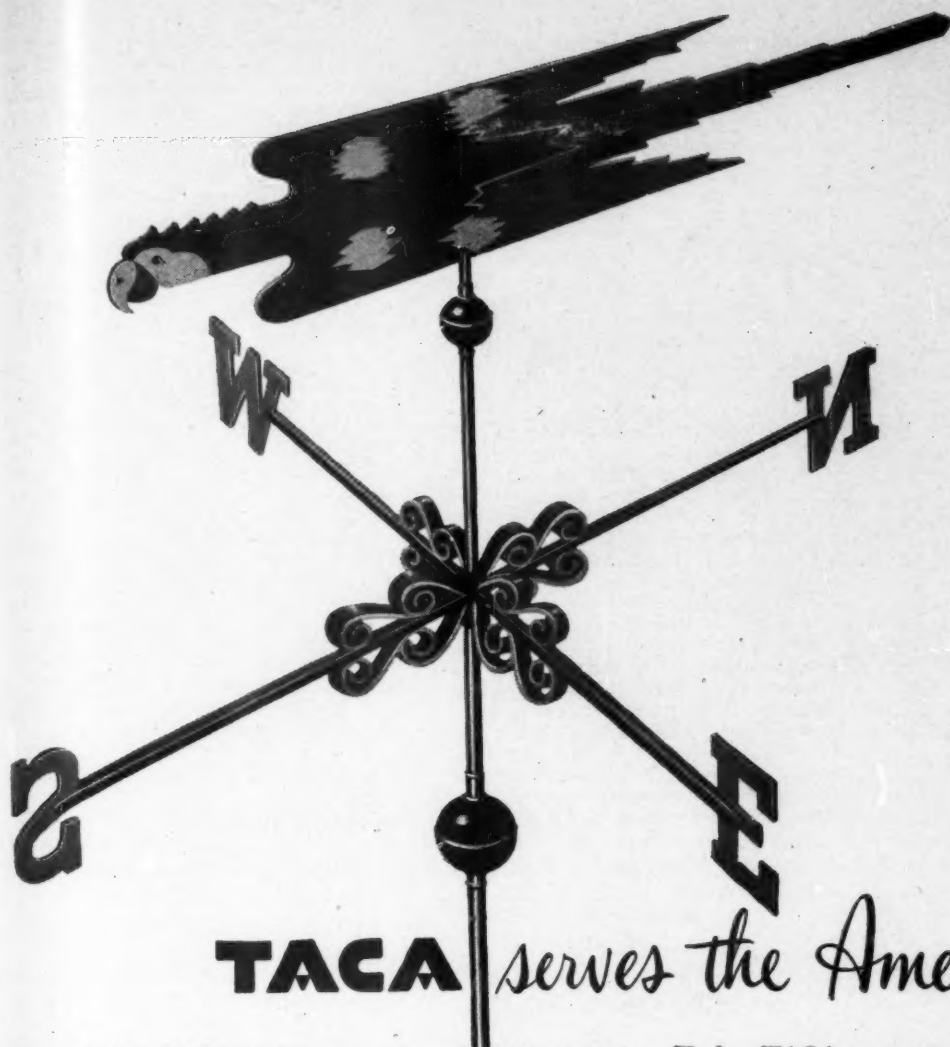
"Does any major nation consider that its interests would be injured if it had no international air transport of its own?"

I am afraid the answer is an emphatic "Yes."

Nationally operated international air transport does three things for a nation, even if operated at a loss.

1. It promotes more national trade than could be attracted by foreign operated air transport, although I consider the difference of secondary importance.
2. It encourages its own nationals to travel more widely than they would do in foreign aircraft—and more important still, in doing so, to spend national currency with national operators.
3. It provides a vital national security factor in factories, in personnel on

(Concluded on Page 82)



TACA serves the Americas

SINCE WE CAME TO NORTH AMERICA, we have heard people ask, "What does T-A-C-A stand for?"

The name, itself, is derived from "*Transportes Aeros Centros Americanos*"—Central American Air Transport.

TACA was born in Central America, as an aerial life-line, opening up mines and markets and a new era of modern transportation. Even now, that pioneering continues, and in fifteen years TACA's wings have spread far . . . from Miami, Mexico City and the Caribbean down to Lima and Rio de Janeiro.

Today, TACA is a closely knit federation of seven "TACA" companies, manned by nationals of the countries in which they fly, and advised by technical experts from North America . . . a truly inter-American working partnership.

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PRESIDENT

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PRESIDENT TRUMAN has approved the Civil Aeronautics Board's decision in the South Atlantic Route Case, and the CAB has issued a certificate to Pan American Airways for a period of seven years authorizing service between the terminal point New York and the co-terminal points Johannesburg and Capetown (Union of South Africa) via the Azores, Dakar, Monrovia, Accra and Leopoldville. In addition an existing certificate of PAA was amended authorizing that airline to operate on a seven-year basis beyond Natal via Ascension Island and a point in West Africa to the same co-terminal points of Johannesburg and Capetown.

The route to South Africa via the Azores and West Africa provides a direct link for the first time between those points and the United States. In establishing such service, the Board indicated the underlying economic considerations, stressing the increasing importance of the Union of South Africa and the Belgian Congo in United States foreign trade.

It was particularly pointed out that "the Union of South Africa comprises an outstanding opportunity for the development of foreign commerce of the United States. To take full advantage of this opportunity it will be necessary to provide facilities which will permit the movement of advance agents, salesmen, buyers, business men, mail, cargo, and the many other in-

terchanges which are required if a thriving business in a foreign country is to be pursued. It is, of course, necessary that any such exchange of persons, mail and property between the United States and the Union of South Africa can take place in a time fairly comparable to that in which persons can travel between European points and the Union of South Africa if we are to have anything like an equal opportunity to trade actively with that part of the world. The attainment of this objective is possible only through the establishment of direct air service between the United States and the Union of South Africa."

The determination to certify an additional route across the South Atlantic was based on considerations of national defense. Ascension Island, during the last war had been developed at great expense by the United States and had proved its value as an alternate route to the European, Mediterranean and Middle Eastern theatres of war. In this regard, the CAB stressed that "under our Congressional mandate the national defense is an explicit objective to be attained in the establishment of an international route pattern. The Congress in the declaration of policy set forth in the Act recognizes the national importance to potential defense needs of the development of commercial routes and bases. The record shows that Ascension Island has already an active history of vital use in this respect and that in terms of hemispheric defense, its utility as a base is significant."

In reaching its decision the Board was

fully aware that this additional route represented an item of some cost but felt "it important on grounds of national defense to maintain a connecting link across the South Atlantic." These considerations were advanced by the governmental agencies principally concerned with military and naval planning, and the CAB felt that "their interpretation of 'national defense' . . . weighs heavily as against economy of operation."

In designating PAA as the carrier, the CAB pointed out that it was in a better position than any other applicant to render the services at the lowest cost. PAA has been engaged in extensive international operations, covering the same route, both commercially and under contract to the War Department. In addition, the Board pointed out, the airline has available bases to operate these services the most economically, integrating them into its present system. The CAB said that were another carrier to be granted either of these routes it would entail public expense far in excess of that contemplated, requiring that carrier to establish new bases, and that it would entail great public expense, requiring that carrier to establish new bases, and that it would create traffic diversions upon routes presently certificated in the same or adjacent areas, without a concomitant traffic potential.

Pan American World Airways has concluded a \$4,500,000 contract with Consolidated Vultee Aircraft Corporation for the purchase of 20 Convair 240 Clippers.



Magic Carpet

TO WORLD TRADE

Import and export are important factors in American economy and there's a modern magic carpet to speed up the process.

THE Magic Carpet to World Trade is more than a subject matter . . . it is more than a mere slogan . . . it is a communication actuality that exists today and one that is growing much faster than most of us realize. Aviation is destined to be one of the most powerful instruments in uniting the nations of the world.

The airplane knows no boundaries, and the age old barriers of land, mountains and oceans have been removed. The air extends everywhere and is the one medium which can provide fast communication between each nation and all others. This means that whole areas of the earth which were once isolated are now on the main highways of aerial transportation, and because of the Air Age, undeniably we will have a change in our social and economical patterns. Our responsibilities as an individual, as a community and as a nation are becoming international, and our understanding of world affairs must be broadened accordingly if we are to accept this added responsibility in its proper stride.

We no longer speak of distance in geographical miles, but rather in the time required to go from one place to another. In the days of George Washington, the distance from New York to Boston was much greater, in terms of travel time, than the distance is today from New York to Bombay. All the

nations of the world are closer today than were the 13 colonies in 1776. People who once lived their lives in comparative isolation from other peoples, must now learn to get along with other groups who are only a few hours distant. The city in which the reader lives is only 60 hours away from any place in the world, and probably by next year this will be reduced to 40. World tours are now being planned which will make it possible for a person with two weeks' vacation to go around the world and spend 11 days of his 14 on the ground.

With weekends in Paris an actuality today, the reader can readily anticipate the mass travel with which we will be faced tomorrow, and as is customary in all history, with this mass travel will come mass trade. As a matter of fact, it's beginning already.

Many have looked upon air transport as a fast method of reaching their destination only. Air cargo is taking its place alongside air passengers on an international scale, and now it is time to consider this mode of commerce as not only a fast method of distributing products but as truly a highway to a new world trade—the magic carpet to a new exchange of ideas and an interchange of products between nations undreamed of heretofore.

And, since history always repeats, as a new method of transportation is uni-



By R. E. Whitmer
Director of Cargo Sales
Trans World Airline

versally accepted, new markets will be created—new business horizons will appear. We will exchange items not considered, nor indeed possible, with previous slower methods of transportation.

Recently TWA carried to far away Palestine over 100,000 trout eggs which were hatched in the State of Washington. In a few years, residents from Washington who may be traveling in the Levant will be surprised to see their native Rainbow trout in such a far away place. Poultry hatching eggs by the thousands have been flown to Europe in recent months. Newsreels are moving to Europe by TWA. *Newsweek* does most of its European and Mediterranean



TWA HEADING OVERSEAS—R. E. Whitmer points out in his article that "with mass travel will come mass trade." Here a TWA Constellation transports passengers and cargo to Paris.

printing in Paris and Rome, and by making a last-minute preparation of the plates on this side and speeding them to the French and Italian capitals. Continental Europe reads the same editions as the people of the United States. Without the use of air transportation, these never would have been possible. The items listed for import read like the cargo list of a treasure ship in the days of the Spanish Main.

1. Tons of Iraq dates.

2. Thirty percent of all the jasmin essence in France is currently being shipped to the United States. The French Government is sponsoring further development of the floral oils for export. Cosmeticians, perfumers and soap manufacturers are already moving these oils by international air cargo.

3. Mouth-watering honey, sponges, and beautiful embroidery wait in Greece. Consignments of Oriental rugs from Turkey and Iran have begun to reach the United States.

4. TWA has carried gold bullion and precious stones, as well as raw silk from Italy.

New Galleons

Yes, the treasure ships of old have moved into the skies. The glittering four-engined galleons of the airways now carry a king's ransom in precious cargo above the same waters where roving pirate ships caught many a fat prize. Speaking of gold bullion, these shipments are on the increase, and banker readers are well aware of the interest that may be saved on a quarter-million-dollar gold shipment when it is en route three days instead of three weeks.

But, in considering the various import and export possibilities, in considering how your area can improve its position in the world trade market, one must realize that merely being on the main highway to everywhere does not automatically establish a permanent position. It must result from a long-range, well

planned program. The opportunities are present, but whether advantage of such opportunities is taken will depend entirely upon individual initiative and that of the community.

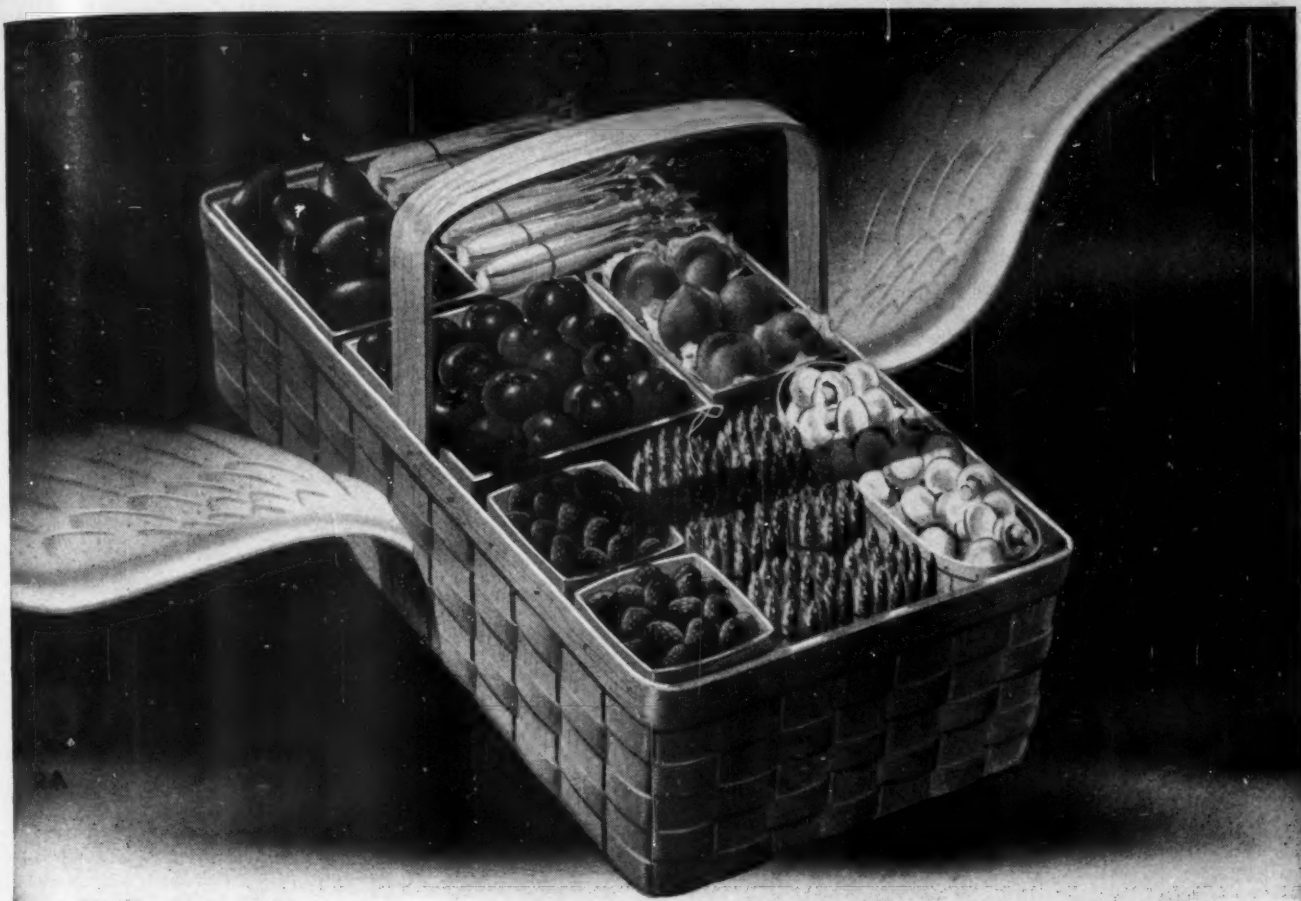
When the words, import and export, are mentioned to the average man, he immediately is engulfed in a cloud of confusion as to how he should go about doing such business. This situation is not eased when he is confronted with terms such as consular invoices, certificates of origin, certificates of purity, export declarations, monetary exchange, and a host of other items used in the foreign trade field.

Perhaps, before we can have this general public understanding of world trade business, we must take the necessary steps to obtain a simplification in the customs procedures. All of the forms and documents required by the various countries, including our own are proving a serious handicap to international air transportation. The customs procedures for the United States and other countries have not been materially changed for years. We are doing Twentieth Century business on procedures established for the gay Nineties. Today's customs procedures were planned around steamship transportation requirements when the ship would be in port for several days, and the customs house and the steamship docks were side by side. They did not dream of international air transportation with planes making 35-minute stops at airports miles from the city, while en route to a dozen different foreign countries.

We must acknowledge that exceptions have been made for contiguous countries such as Mexico and Canada where higher speed transportation in the form of motor carriers and the railroads have provided direct service to and from the United States. Today air transportation is providing as direct and as fast a service to many other countries, and France, India, and China will be no different than Canada or Mexico.

Many of the advantages of air transportation are lost because of unwieldy customs procedures. It is necessary that cargo to Europe from the United States arrive at our Eastern ports of embarkation at least 24 hours prior to flight departure, and that the flights themselves be completely closed out two hours before departure in order to afford proper clearance through customs and to make certain the necessary manifests are prepared.

For example, at each station from which we depart in the United States, we must carry on board from 100 to 300 copies of the manifest for distribution among the various foreign stations at which the plane will stop. The Portu-



WHEN TIME MEANS MONEY SHIP BY AIR

Field-ripened fruits and vegetables command premium prices in big city markets...

New fabrics, new garments are on the spot at the peak of new fashion demand...

Inland customers get seafoods and other perishables in prime seacoast freshness...when you SHIP BY AIR.

So, for greater customer satisfaction and for greater profit, meet early season demand, minimize damage and spoilage in transit...SHIP BY AIR.

Investigate the many other advantages of Air Freight at the offices of America's great air transport specialists. They will deliver any product to its market *faster...at practical rates.*

The Fairchild Packet, first plane designed *specifically* to carry cargo by the ton, is now exclusively in the service of the Army Air Forces. Fast loading, short takeoffs, economy in operation are characteristics that highlight the Packet's long list of capabilities for the new age of air freight.



Get your FREE copy of handy listing of "American Flag Airfreight Carriers." Write Fairchild today.

Fairchild Aircraft

Division of Fairchild Engine & Airplane Corporation, Hagerstown, Maryland

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gese require 15 copies, the Spaniards 10, etc. Greece requires four copies of each air waybill for shipments that pass over Greece, even though the shipment will not be off-loaded in that country.

We recently had one flight from Washington that had only 200 pounds of cargo on board, but 1,200 copies of forms were necessary to accompany the cargo. We need more of a common basis for the customs requirements of the various countries.

Iceland bases its customs charge on the value of the article plus the transportation charge. This discourages the use of air, since on some items, the air transportation charge may be quite high. Most countries consider only the value of the article.

Some time ago, a French airplane arrived at an East Coast point, and as is customary with the French, the crew was permitted to have wine on board. After the plane arrived, before it could be moved, every bottle of wine had to be sealed and placed in a sealed compartment to make certain no one in the United States would drink any of the wine that had not contributed to United States taxes.

Of course, regulations must be. They all have a purpose, and positive control on imports and exports is a necessity, but we are confident that all of the basic elements of control may be maintained and still accomplish substantial streamlining in order to make adjustments for changes in business cycles.

Trade means understanding—but in understanding another nation's problems, we must recognize that the stand-

ards by which we judge progress and superiority are not the standards used by others. To boast of our advancement in terms of the number of bathtubs per thousand population, or the number of automobiles or radio or telephones—this would leave most nations cold.

Mutual Learning

If the Air Age is to bring to mankind a better understanding and appreciation of one another, we must begin now to develop those attitudes of mind that will make informed appreciative travelers of our citizens. We will have opportunities to visit our world neighbors and to live among them. Let's learn from them and let them learn from us.

There is a pressing need abroad for many of the things which are manufactured in this country. We have not begun to grow or produce the volume of things of which we are capable. In the past, our export trade was not taken very seriously by the overwhelming majority of Americans, but in the future we must develop this trade if we are to keep our farms and our factories functioning at maximum employment levels. By establishing a strong system of airlines throughout the world, the United States can develop and service these foreign markets. Agriculture and industry go hand in hand in building our national economy and both must prosper if either is to progress.

Largely because of inaccessibility, much of the world's natural resources as yet remain undeveloped and a large

portion of the world's population has little to eat, little to wear, and little shelter. As long as such conditions exist, peace for the world will be a fragile thing.

But easy accessibility—modern mastery of time and distance—is the first step toward development of these untapped riches. It brings into play the men, the plans, the methods by which distant people can advance themselves through conversion of natural resources into usable goods and services.

It helps to educate people through conversion of natural resources into usable goods and services.

It helps to educate people in the desire for better things. The key to all this is air transportation. These huge transports are more than mechanical things flying over the ocean. We see them instead as busy shuttles helping to weave the fabric of world understanding, world advancement, and world peace.

Scheduled Lines Flew First Million-Mile Month in May

The scheduled airlines of the United States carried more than a million passengers a month for the first time in their history when, in May of this year, their passenger lists totalled 1,013,682, a gain of 92 percent over the same month in 1945 it was reported by the Air Transport Association of America. In the first five months of 1946 the domestic carriers added 108 planes to their fleet.

The May figure, according to the ATA, brings the total for the first five months of this year to more than four million passengers, which is 87 percent above the same period in 1945 and near the total of the entire 12 months of 1944. The percentage of scheduled miles actually flown is up from 92.39 per cent for the first five months of 1945 to 95.36 percent for the same period in 1946. In May the figure reached 96.74 percent.

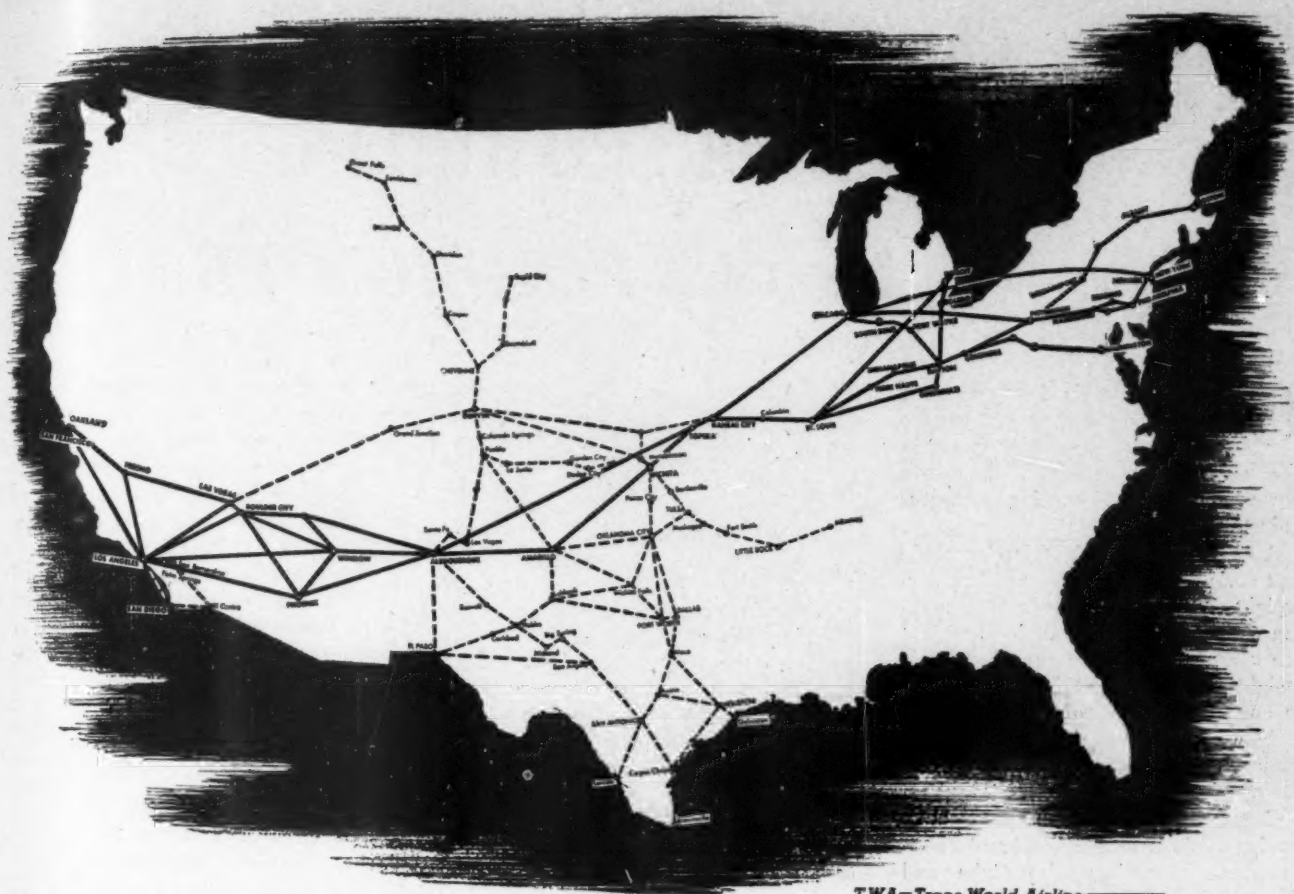
The utilization factor for planes rose from 10.48 hours per day to 11.01 hours. The passenger load factor on most heavily traveled routes remained close to wartime averages despite increased schedules and planes, but the average for the entire country was dropping, as expected, although only from 86.84 percent a year ago to 84.39.



AIR AGE DUTY—"If the Air Age is to bring to mankind a better understanding and appreciation of one another," says the author, "we must begin now to develop those attitudes of mind that will make informed appreciative travelers of our citizens." Above is a native shoe store in Africa. The shoes are handmade and only native leathers are used.

Export Department of Fairchild in New York

The Fairchild Engine and Airplane Corporation has moved its export department from Washington, D. C., to New York City, where offices will be occupied with the head office of the corporation at 30 Rockefeller Plaza. President J. Carlton Ward, Jr., said the move was made to facilitate contacts with export firms, foreign corporations and foreign governments which maintain offices in New York City. The New York office, under the direction of Marvin J. Parks, manager of the export department, will handle all foreign sales of the Fairchild *Packet* cargo plane, the F-24 personal plane, Ranger aircraft engines, Dura-mold car-top boats, and other products.



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OCTOBER 1946—PAGE 23

How Do The

NON-SCHEDULED AIRLINES

Fit Into FOREIGN TRADE?

OVERSEAS traffic has grown so rapidly in the past six months that it is now a major factor in the air freight business, America's newest and fastest growing post war industry.

A canvas of air freight foreign trade just completed by the Independent Airfreight Association reveals that bulging overseas shipments of bulk freight are already taxing the capacity of air freight lines engaged in this service. In one instance the volume of overseas freight has surpassed the domestic business of a leading air freight company.

Currently, the greatest volume of foreign trade is with Central and South American countries; also Cuba and Puerto Rico. Shipments include manufactured products of every kind from tractors and sewing machines to electrical appliances, silverware, drugs and all types of merchandise. Returning, the planes bring back mined silver, fibres, hats, jewelry, hand-made dresses, furs and flowers, mostly orchids.

A principal reason for the mounting volume of air freight to South America and other tropical countries is the fact that shipments of manufactured goods to these parts began to dwindle perceptibly even before the late war broke out in Europe.

With Germany, France, England and most of the other European manufacturing countries turned completely to war production, commercial products from these sources were not available. The plight of Latin American countries in this respect became even worse after Pearl Harbor when the United States and Japan converted from civilian to war production. Large-scale manufacturing is virtually unknown in many South American countries.

Now, to satisfy the demands of a clamoring market, the merchants and business men of the principal South American cities want manufactured goods of every description. *And they want these goods immediately!*

The air freight lines, generally, are maintaining schedules which assure delivery in any South American city in from five to seven days, approximately.

This compares with about six weeks by ship, the only other means of transportation by which South American markets can be reached. And at present there is a severe shortage of steamship cargo space.

Development Aid

Air freight is not only doing an outstanding job of getting much needed goods to the large foreign marketing centers but it is aiding materially in the development of the vast agricultural resources of Latin America. For example, one of the large textile concerns, working in conjunction with a leading air freight line, has developed a non-oscillating parachute which was used successfully in landing sheep, goats and other small farm animals on farm and ranch developments in isolated sections where there are no airports. With but minor exceptions the animals were dropped safely to earth without physical injury or any other ill

effects. Plans now under way encompass the delivery of cattle by parachute. The only other means of reaching such remote areas, it is pointed out, is by boat or barge, taking many days or even weeks to make the hazardous trips.

Of the members of the Independent Airfreight Association, Willis Air Service (Commander Line) pioneered in overseas operation. Six of the company's fleet of airfreighters are now steadily engaged in this service, with four flights weekly to Nassau, Kingston, Jamaica, Cuba, Puerto Rico, the Dominican Republic, and to Colombia and Venezuela in South America.

The company's overseas service started with a contract from the Colombian government for the delivery of pure bred Guernsey and Hereford cattle.* Shipments now leave Teterboro, New Jersey weekly for Bogota, capital of Colombia. Flying time is about 18

* See July, 1946 AIR TRANSPORTATION.



CARGO FOR MILADY—Dress materials are flown to Puerto Rico, with the finished product brought back again to the States by air. Here's a typical Flying Tiger Line cargo—with typical appreciation by the distaff side.



Proof that the Martin 2-0-2 cargo-carrier gives greater value per equipment dollar!

Look at the facts about the Martin 2-0-2 cargo-carrier. That's performance! Then remember that Martin has sold over twice as many twin-engined airliners as its nearest competitor. Result: quantity production and a low purchase price. That's economy!

And low original cost is only part of the story. Ease of loading and maintenance . . . reduced flight and turn-around time . . . high dependability and efficiency . . . all these help prove that Martin gives you the *greatest value per equipment dollar*. For complete specifications on the 2-0-2 cargo-carrier, contact THE GLENN L. MARTIN CO., BALTIMORE 3, MARYLAND.



FAST FACTS ABOUT THE MARTIN 2-0-2 CARGO-CARRIER

- (All performance figures without Jet Exhaust)
- Take-off Gross Weight 40,745 lbs.
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 - Maximum Operational Range (60% Power, 10,000 ft.) 1800 mi. with reserve of 200 mi.—45 min.
 - Operational Ceiling (at T. O. weight, one engine inoperative) 5,000 ft.
 - Maximum Operational Ceiling (T. O. weight, two engines) 26,500 ft.
 - Cruising Speed at 10,000 ft. and 60% Normal Rated Power 246 m.p.h.
 - C. A. R. Runway Length for Landing at Sea Level 3715 ft. at Gross Weight 36,500 lbs.
 - Take-off Distance, over 50 ft., at Sea Level (Water Injection) 2550 ft.
 - Engines P & W R-2800-2SC15G
 - Fuel Consumption, 10,000 ft., 60% Power 156 GAL/HR.
 - Fuel Capacity 1470 GAL.
 - Operating Cost Per Ton-Mile as low as 5 3/4¢
 - Martin cargo planes are now being built for the following airlines: United; Commander.
 - Martin passenger airliners are now being built for the following airlines: Capital (PCA); Eastern; Chicago & Southern; Braniff International; United; Northwest; Delta; Dodero (Argentina); Panagra; Cruzeiro Do Sul (Brazil).

Martin

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hours. The planes used in shipping cattle are specially geared for the service, being transformed into veritable cattle ships with separate stalls for each animal and a professional herdsman as custodian.

Agricultural experts have been particularly interested in this method of transporting livestock, pointing out that cattle hitherto transported by ship have taken from six months to a year to recover from the rigors of the sea voyage, which requires about 50 days, and during which rough weather usually is encountered. Authorities state that cows travel comfortably by plane, sleeping most of the way. They lose practically no weight and are able to be shown at exhibitions or used for breeding or milk production purposes shortly after arrival. In addition to cattle this concern is handling an increasing volume of general freight to foreign points, including dresses and nylons.

More Contracts

Flamingo Air Service is also doing a steadily increasing volume of overseas business.* Two recent contracts have added materially to the volume of such freight being handled by Flamingo. One is for the transportation of tractors and tractor parts from Detroit to Havana. Another is an arrangement with an association whose members comprise 162 export shippers to fly planeloads of manufactured goods, drugs, and merchandise of various types to 36 cities in South America.

The tractors, weighing 2,400 pounds each, are loaded three to a plane. Parts accompany each load. The trip from Detroit to Havana, including time required to clear the cargo through the customs and to conform with other international air freight regulations, is made in about 11 hours. The extensive South American operations of this line are handled in agreement with an in-

*See *This Flamingo Flies Freight* in June issue of *AIR TRANSPORTATION*.



FOR NORTH AMERICAN FLOWER MARTS—A plane-load of fresh-cut flowers, mostly orchids, being unloaded at a United States airport following a flight from South America.

ternational carrier. The concern guarantees shipments to all the Latin American points in approximately five to seven days.

The volume of freight flown from St. Petersburg, Florida, to Havana by Flamingo has increased to the extent that five flights a day between the two points are required. Returning planes carry full loads of Cuban avocados, pineapples, vine-ripened tomatoes, and papayas which are delivered in Tampa, Atlanta, New Orleans, Washington, and New York.

Air freight operators have found overseas service profitable and attractive. The very nature of the business entails higher tariffs, and prospects for future expansion are very rosy. Foreign trade has always held a tremendous potential for the fast and flexible type of service provided by air freight, say the operators, and only now is this field beginning to be tapped. So far only the surface has been scratched. The business is growing so fast it is

all the airlines can do to keep up with it, officials assert.

The history of overseas air freight almost exactly parallels the amazing growth of the industry domestically. Air express to foreign lands has been in existence for many years. But bulk air freight—that is, freight by the plane-load—to overseas points, began developing about six months ago, about the same time that shippers in domestic trade discovered and began to take advantage of the savings in time and money that air freight makes possible.

Flying Tigers Seek Network Of Air Freight Routes For Scheduled U. S. Operations

The Flying Tiger Line, non-scheduled air freight operator, has applied to the Civil Aeronautics Board for approval of a network of scheduled air freight lines throughout the United States.

The proposed routes form a complete system of lines between major industrial, agricultural, fishing and shipping centers. Routes between each of 20 Western bases and each of 19 Eastern, Central, and Southern bases are sought. In addition, 56 point-to-point routes are requested, as well as authority to operate between and within six large geographical areas, each encompassing a concentration of products proven or potentially suitable for air cargo shipment.

New York Newspapers Extend Contracts for ACT Delivery

Contracts to fly both *The New York Times* and *The New York Herald-Tribune* nightly to Cleveland, Detroit, and Chicago, have been announced by Air Cargo Transport Corporation.

Under the terms of the contracts, an ACT *Sky-Van* leaves Newark Airport shortly after 1 o'clock every morning with the city editions of both papers which carry the dogear, "airplane delivered." The newspaper plane arrives in Chicago, last stop on the aerial paper route, about 4½ hours later. The contracts follow the successful fulfillment of similar contracts signed last February whereby the *Times* and *Tribune* are flown by ACT every night to Washington.

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Teterboro, New Jersey

New York Terminal for Non-Scheduled Carriers

No landing fees

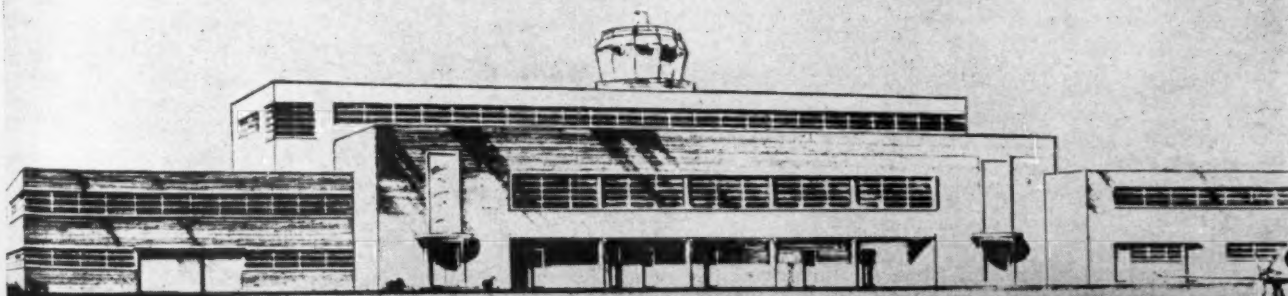
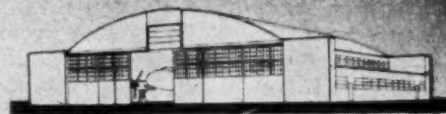
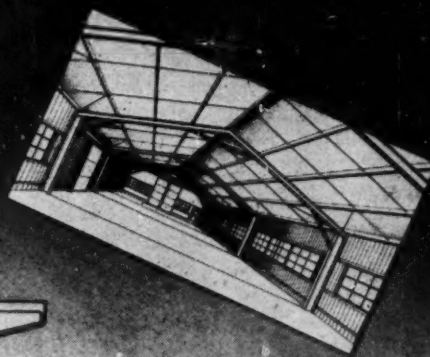
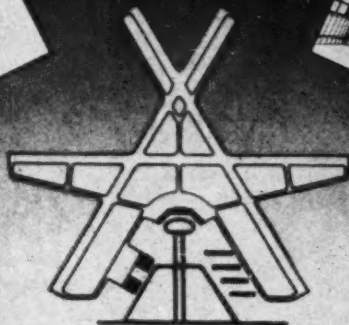
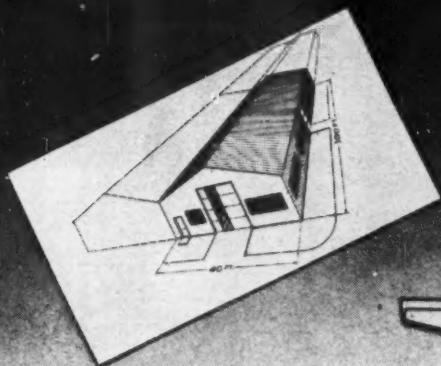
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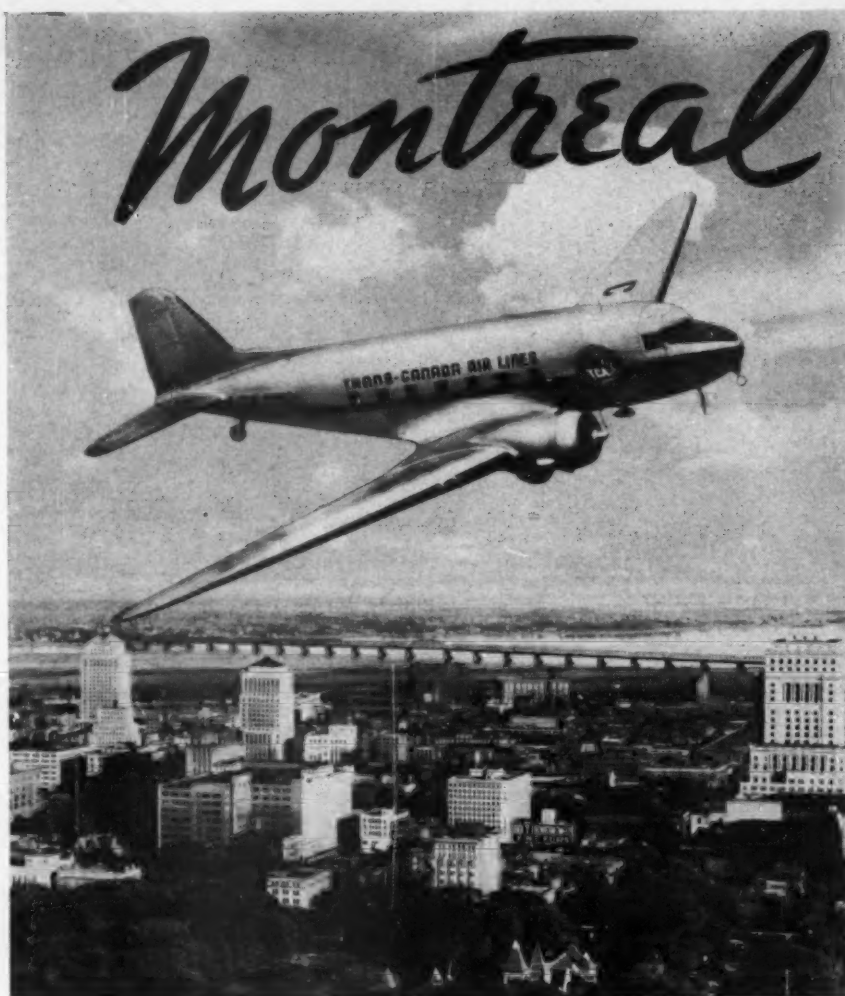


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Looks To The SKY



By DR. F. CYRIL JAMES
Principal and Vice Chancellor
McGill University, Montreal

RICHARD HAKLUYT does not belong to the Air Age.* I doubt, indeed, if we shall find in this generation any man endowed with sufficient pertinacity and leasure to chronicle for us the stages of our geographical revolution as carefully as he recorded the voyages of discovery that characterized the Elizabethan Age. It is our loss, and it will be our children's loss, that he has no successor, for it was in the pages of Hakluyt that our English-speaking ancestors saw the vivid reflection of the growing world that European seamen were opening to human settlement and conquest.

The very name of Montreal had not been coined at that time, but if one turns to the first of his volumes on *The*

* Richard Hakluyt, the famous English geographer, was born in 1552 and died in 1616.

There's no doubt that the great Canadian city in the Province of Quebec has an important stake in air transportation. Here's why Montreal fills the bill.

Voyages, Traffiques and Discoveries of Foreign Voyagers he will find that, on the nineteenth of May, 1535, "Captain James Cartier" sailed from St. Malo on the French coast. Four months later, toward the end of September, Jacques Cartier and his little band marched across "goodly and large fields full of such corn as the countrie yieldeth."

"In the midst of these fields is the citie of Hochelaga," Cartier writes, "and it is joined to a great mountain

that is tilled round about, very fertile, on the top of which you can see very farre: we named it Mount Roiall."

Montreal had been found after more than four months of perilous voyaging from the Atlantic coast of France! A couple of years ago—a mere four centuries later—one of the undergraduates at McGill University signalized this modern Air Age by working his way through college in the novel occupation of flying aircraft across the Atlantic once every few weeks in order to obtain

money for his room and board, and was able to do so without interrupting the continuity of his academic course.

The contrast epitomizes the change that has occurred in the geographical structure of the world during our own generations. Jacques Cartier traveled as quickly as all the generations of mankind stretching backward to the early dawn of history when man first built a boat that would sail upon the waters. His voyage is comparable to that of the Egyptians seamen who circumnavigated during the same 1,500 years before the birth of Christ, or to the many half fabulous voyages of an earlier date, to be found in the records of India and China.

Accelerated Progress

For tens of thousands of years the rate of human progress in travel remained almost constant. Within two or three generations it has become vastly accelerated as a result of the application, first of steam, and more recently of the internal combustion engine to locomotion. Steamships, railways, and automobiles had made it possible to travel across the world's surface at a speed which would have been incredible even to our great grandparents.

In a sense, the development of the airplane can be regarded as the most recent chapter in that extraordinary series of scientific developments in the field of transportation. The airplane travels even faster than the steamship or the automobile.

Air Age, however, means more than an arithmetical increase in the number of miles per hour at which humanity can move through space. The plane is not only faster than a ship or an automobile: it moves in a new element, and is able, therefore, to ignore the contours of the earth's surface and the difference between land and water. We have not only changed our concept of time; we have changed our concept of space, and the great routes of world travel are no longer those which we learned in our school text books 20 or 30 years ago.

This change has deep significance for Canada. A change of trade routes resulting from the curiosity of Jacques Cartier's contemporaries led to the decline of the Italian cities, which had grown wealthy during the later Middle Ages, and laid the foundations for the economic and political growth not only of Spain and Portugal, but of Holland, France, and Great Britain. It was the countries on the Western Atlantic that found themselves on the great routes stretching out like a network to every corner of the new-found world.

In the revolution which is occurring

in our own generation, it would seem to be the countries bordering on the North Pole which are at the center of the new Great Circle Routes between the large centers of the earth's population. Everyone is by now familiar with global maps centered on the North Pole. The reader will remember not only the great mass of land regions on such a map, but the critical position of the Dominion of Canada in regard to any of the lines of communication between the large population centers of the world.

Every direct route between North America, on the one hand, and Europe or Asia on the other, crosses Canada. One end of the air bridge spanning the North Atlantic rests on the Lower St. Lawrence and the Maritimes, no matter from what point in the United States or Canada the trip may be taken. At the other side of the Dominion, the Yukon Territory and the Mackenzie Valley stand astride the route from North America to Asiatic Russia and the whole Orient. In the Air Age, therefore, Canada has a strategic position, whether we are considering the problems of peaceful reconstruction for the world or fearing the potentiality of some war which we are striving to avoid.

Within Canada, the position of Montreal is important to everyone interested in the development of air transportation. The Air Age is a characteristic of our own generation. It began but yesterday, and many of us can remember our first airplane flights 15, 20, or 25 years ago in machines that would now be museum relics, with their queer construction of wooden frames, oiled silk, and piano wire. I confess for myself that when I see some of those early planes, I am amazed at my own temerity or ignorance in ever having been willing to board them and take off from the solid earth!

When we remember the newness of the whole development, it is interesting to notice that Montreal not only started early but has kept pace with developments in the whole field of aviation. We might date the beginnings of a substantial scale from the decision of Canadian Vickers, Ltd., in 1923, to develop facilities in Montreal for the construction of flying boats required

for the Royal Canadian Air Force. In the following year the same company produced the *Vedette*, which was in fact the first modern aircraft designed and built in Canada. By 1928, the St. Hubert Airport was opened for commercial aircraft and Montreal's first air mail services were inaugurated during that Summer.

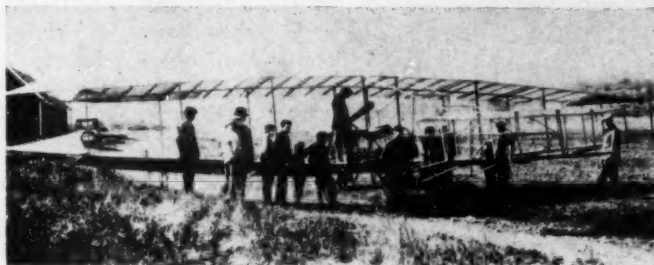
It is interesting to look back a mere 18 years and realize that at that time there was great excitement over the fact that the first air mail services—two trips a week from Montreal to Rimouski, a matter of 330 miles, and one trip a week over the 110-mile route from Montreal to Ottawa—were hailed as a great innovation.

In 1930 public attention was focussed on air transportation by the arrival in Montreal of the British airship R-100, which crossed from Great Britain in the then record time of 78 hours, 49 minutes, with a commercial load of 100 passengers and one ton of mail; and it is interesting to notice as a parenthesis that during that same year 42 out of 146 planes manufactured in Canada were built in Montreal.

Air-Minded City

For want of space, I will not more than mention in a few sentences the significant stages in the development of Montreal as an aviation center. From each of these beginnings there have developed large and important services. On February 1, 1936, air express for valuable freight became a reality. Montreal was Canada's link with the nation-wide air express hook-up through a United States organization with 32 countries of the world. Almost overnight Canada, through Montreal, was connected with 215 airports in the United States and 23,000 express offices, together with the facilities of all the 32 countries served at that time by Pan American Airways.

Each of these developments seemed important, and were important at the time at which they occurred. But I think that if the reader casts his thoughts back to 1938 or 1939, he will realize that during the years of the struggle now happily behind us, the Air Age grew suddenly into its full flower. So many things have happened, and



YESTERYEAR — The Silver Dart, first plane to fly in Canada. It took to the air on February 23, 1909, covering half a mile at 40 miles an hour.



AIR-CONSCIOUS CITY—Montreal, permanent seat of the Provisional International Civil Aviation Organization and the International Air Transport Association.

happened so quickly, that it is hard for us to recapture that frame of mind of the Summer of 1939.

Transatlantic flying at that time was a rare occurrence which possessed a good deal of the quality of sensation, and the arrival of any transatlantic flier was certain to be at least a nine days' wonder in the headlines of the newspapers. Colonel Lindbergh, who had achieved fame overnight by a lone voyage from New York to Paris in 1927, was engaged in a survey of the possibility of a commercial airline across the North Atlantic; and his daily hops had been recorded in most of the newspapers of this continent as a matter of great interest in the field of geographical exploration.

It is hardly necessary to recount the scarcity of even military planes in France and Great Britain when war broke out in September, 1939. It became necessary for Great Britain and France very early in that struggle—even when the man in the street on this Continent was still talking about the "phony war"—to purchase from Canada and the United States as many planes as possible. There were not many to purchase. But as a result of the orders given to manufacturing firms on this continent through the Allied Purchasing Commission, a tremendous expansion of production facilities was encouraged. It is a matter of pride to Canadians that the men who directed the work of that commission so splendidly were both Montrealers; and when the history of this war comes to be written quietly and accurately, the names of Arthur Purvis and Morris Wilson will occupy a high place in the list of those who provided the tools with which the job was finished.

As one footnote to this history, I might recall the jubilation with which Morris Wilson greeted the announcement by Henry Ford that 3,000 heavy bombers would be produced each month

from the new Willow Run Factory. At that moment there were not 3,000 heavy bombers in service, even if all the resources of the Royal Air Force and the United States Army Air Forces were added together!

More particularly, from the viewpoint of Montreal, there had to be faced the problem of getting those aircraft across the Atlantic, so that they might become useful as soon as possible on the battle fronts. That is another story which still reposes only in the memory of those who were responsible for the revolutionary developments that it necessitated, but in due time it will be written down as a splendid chapter in Montreal's history. It was almost entirely a Montreal story.

Atfero, a name now half forgotten, was a group of Montrealers, including not only Purvis and Wilson, but Sir Edward Beatty and the resources of the Canadian Pacific Railway Company and other Montreal organizations. In order to get planes to Europe, it was necessary for Atfero to recruit pilots outside of Canada and Great Britain, since all of the country's young pilots were needed at that time by the Royal Air Force. It was further necessary to pioneer routes not then developed for commercial flying; to develop the aids to navigation, and to develop airports.

The great airport at Dorval—perhaps the most important link for many years in the aerial contact between North America and Europe—was developed by Atfero, and although it has been expanded by the Royal Air Force Transport Command under Sir Frederick Bowhill and others, and will be still further expanded to take care of commercial transport in the new future, it remains a standing monument to the vision of that small group of men who realized vividly the place that Montreal could occupy in the Air Age on which we were forced to embark so speedily by the impact of war itself.

Today there are not only commercial aviation facilities at Dorval, but much of the scientific organization which must play a part of vital importance in the further development of air transportation. At Dorval itself is to be found one of the greatest meteorological stations in the Dominion, and as a corollary in this field of study of weather conditions McGill University has brought to Montreal two young men whose training and war experience have equipped them to teach and to develop still further our scientific knowledge of meteorological conditions and weather forecasting.

It was from McGill University that Albert Gillson went into the Royal Canadian Air Force to revolutionize the training in long-range aerial navigation and develop the first RCAF Navigation School at Rivers, Manitoba. Still earlier, it was from the Department of Physics at McGill that people like Norman Shaw and David Keys began to study the whole physical and navigational problem of the Magnetic Pole, which becomes increasingly important as new air routes across the north of Canada develop to a commercial scale.

Today we are still on the threshold of the Air Age. It would require an imagination as vivid as that of Jules Verne to depict with any confidence or accuracy the developments that are likely to occur during the next century.

Even at the present time, however, Montreal has proved both its interest and its competence. We have the facilities for the production of aircraft. We have unexcelled facilities for aerial transportation. We have that grouping of scientists and of scientific facilities that is so essential for the discovery of solutions to problems that are as yet only vaguely formulated.

During the last few years international organizations like the International Labour Office and the Provisional International Civil Aviation Organization have lived among us and brought home the increasing extent to which Montreal's destinies are intimately related to those of many distant portions of the world. We have been enriched by that experience.

Popular Montreal

There is increasing weight to Montreal's claim as a city of distinction in this Air Age. Not only is Montreal the headquarters for the International Air Transport Association and the Provisional International Civil Aviation Organization, but it also houses offices of the Canadian Aeronautic Association and the Aircraft Industries of America.



The Boeing Stratofreighter can be loaded through four doors at once.

The Boeing Stratofreighter: more cargo—faster—at lower cost

Air freight comes into its own with the new Boeing Stratofreighter. Here's a plane that will carry more cargo—faster—at lower operating cost per ton-mile—than anything flying today!

Among the Stratofreighter's features that will make money for airline operators are its double-deck design, with four compartments; 6140 cubic feet of cargo space and 41,000 pounds payload capacity; fast loading, with doors at truck-bed level and power hoist for bulky and heavy freight; cruising speed of 300 to 350 m.p.h., reducing overhead costs per mile; exceptional ease of maintenance and extraordinary operating efficiency.

Boeing-designed altitude conditioning will maintain sea-level pressure up to 15,000 feet. And an ingenious cooling and heating system permits simultaneous shipment of a wide variety of perishables. The temperature in each cargo compartment can be individually adjusted for each type of product!

The Stratofreighter is rugged, dependable, easy to fly. Its performance has been proved in millions of miles flown by the Boeing B-29 and C-97. Like its famous twin, the Boeing Stratocruiser—first true super-transport—the Stratofreighter will be ready for service in 1947. Boeing Airplane Company, Seattle, Washington; Wichita, Kansas.



The same skill in research, design, engineering and manufacture that produced the B-17

Flying Fortress and B-29 Superfortress, the ocean-spanning Clippers, Stratoliners and

Stratocruisers distinguishes the Stratofreighter. Built by Boeing, it's built to lead.

BOEING
StratoFREIGHTER

OCTOBER 1946—PAGE 31



KEEP YOUR EYE ON Puerto Rico

By CAROLL WATERMAN
Vice President, Waterman Airlines

IF you have never been to Puerto Rico you probably wouldn't suspect that little island 100 miles long and 35 miles wide sitting out there in the middle of the Caribbean is one of the busiest aviation centers in the Western Hemisphere. All day long—and much of the night, too—the airport at San Juan is alive with activity: huge four-motored ships making it the first stop on their flights from New York to South America; DC-3s arriving or take-off for Miami, Havana, or Ciudad Trujillo. Or perhaps a luxurious *Skymaster* completing one leg of its right angle cruise between New Orleans and San Juan, or San Juan and New York.

The majority of the planes, however, are of the small bucket-seat variety engaged either in commuting service with the three other principal cities of the island, or in hops to even smaller islands of the Caribbean. St. Thomas of the Virgin Islands, for example, is only a 20-minute ride from San Juan, and women think little more of flying over there to shop than the average housewife does of visiting her local department store. In all, there are 21 airlines operating in and out of San Juan.

With so much aviation concentrated

in a small area it is no wonder that Puerto Rican people are among the most air-minded on earth. The airport at San Juan is still under United States Navy control with guards at the entrance to keep out anyone who doesn't have specific business there. Nevertheless, there is always a gathering of residents peering through the high wire fence which encloses the field. Many of these are hoarding their savings in the hope that some day they, too, will be able to board one of the big metal



ISLA GRANDE AIRPORT—Arriving passengers being questioned by immigration officials at the airport in San Juan.

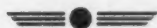
birds and fly to the mainland. It has been observed that with an increasing number of these residents their destination on air trips to the United States is the Middle West or the Pacific Coast, whereas formerly it was almost exclusively New York City.

In 1940, the year before Pearl Harbor, there were 1951 outbound air passengers from Puerto Rico to the mainland, and 833 inbound. In 1944, there were 15,000 outbound passengers and 7,775 inbound. Travel between Puerto Rico and the Virgin Islands amounted to 8,000 outbound and 7,800 inbound in 1944.

No wonder the Puerto Ricans are optimistic about the potentials of air travel on their island. The total plane movement was less than 2,000 in 1942, but members of the Puerto Rico Planning Commission estimate that at the present rate of growth the figure should increase to 15,600 in 1950.

Air cargoes suggest another lucrative field which is bound to grow. Puerto Rico produces many delicious tropical fruits such as mangoes and papaya which, however, do not attain their full flavor unless tree-ripened. Speedy air transportation to American metropolitan markets is the answer here. Some

AIR--X--PRESS



There's an attorney in Memphis, Tennessee who can solve your problem—not necessarily a legal puzzler, either—if you've got a prized camera that needs repairs. He had one that needed fixing, but he got nowhere until he heard of a shop in Vancouver, Washington, that guaranteed to do the job and return the camera in 10 days. The lawyer air-expressed the ailing camera from Memphis on a Tuesday afternoon. When he walked into his office the following Monday morning, there was the repaired job on his desk, less than a week after it was headed westward for a round trip across the continent. . . . There's no doubt about it—that Memphis man's an Air Express fan now!

★ ★ ★

Faced with the prospect of a shutdown when its automatic butter-making machine broke down, a Colorado creamery found Air Express speed the answer to its problem one day last month. Nearest supply house was in Toledo, Ohio. When the distraught creamery manager told the local R.E.A. agent of his difficulty, the expressman advised, "Tell 'em to shoot that part back here by Air Express."

The shipment left Toledo by air at 4:30 o'clock on a Thursday afternoon, arriving in Denver at midnight. Transferred to another plane, the replacement part was flown to Pueblo, then transferred to rail express and brought to Trinidad, Colorado, where delivery was made to a very grateful creamery man. With hardly a break in the creamery's routine, the butter-making machine was back in production, turning out 2,000 pounds of butter hourly, thanks to Air Express and the expressman who sold the service.

★ ★ ★

Whether it's a 10-pound replacement part or a planeload, it's all in a day's work for Air Express. Take the Case of the Flying Milk Containers. When a critical shortage of milk containers developed in the Omaha, Nebraska marketing area recently, an Eastern manufacturer of paper milk containers contracted with the Air Express Division of Railway Express Agency to fly an entire DC-4 planeload of containers from Philadelphia to Omaha. Nearly half a million containers were in the unique shipment, and the non-stop flight was accomplished in less than six hours.

★ ★ ★

With a really round figure—exactly 99,000 shipments—our Air Express office at New York's La Guardia Field broke all existing records in September for number of air express shipments handled in one month. Handled for the nation's regularly-scheduled airlines, this volume of air express was an increase of 75 percent over September, 1945. And it's about 21,000 shipments more than were carried by the entire nationwide air express system in 1933, when the service was only six years young. Air Express flies on!

To Many Points in the U.S.

SAME DAY DELIVERY



AT LOWER RATES!

NOW!
THE LID IS OFF!
MORE PLANES, MORE FLIGHTS —
FOR EVERYBODY
PRIORITIES NO LONGER NEEDED!

AIR SPEEDS up to five miles a minute — one thousand miles in less than four hours — that's how fast your shipments go in the great new planes in use today!

THAT'S WHY an ever-increasing number of same-day deliveries are now being made between many towns and cities in this country.

REDUCED RATES include special pick-up and delivery in all major U. S. towns and cities. Rapid air-rail schedules between 23,000 off-airline communities.

FOREIGN SERVICE

Direct service by air to and from scores of foreign countries. Many are served overnight.

WRITE TODAY for the Time and Rate Schedule on Air Express. It contains illuminating facts to help you solve many a shipping problem. Air Express Division, Railway Express Agency, 230 Park Avenue, New York 17, N. Y. Or ask for it at any Airline or Railway Express office.

RATES CUT 22% SINCE 1943 (U. S. A.)

AIR MILES	2 lbs.	5 lbs.	25 lbs.	40 lbs.	Over 40 lbs. Cents per lb.
149	\$1.00	\$1.00	\$1.00	\$1.23	3.07c
349	1.02	1.18	3.30	3.68	9.31c
549	1.07	1.42	3.84	6.14	15.35c
1049	1.17	1.98	7.68	12.28	30.70c
2349	1.45	3.53	17.65	28.34	70.61c
Over 2350	1.47	3.68	18.42	29.47	73.68c

INTERNATIONAL RATES ALSO REDUCED

AIR EXPRESS



GETS THERE FIRST

Phone AIR EXPRESS DIVISION, RAILWAY EXPRESS AGENCY
Representing the AIRLINES of the United States

mainland fruits such as watermelons do not thrive in the Caribbean territory, but they are so relished there that the more affluent gladly pay five or six dollars apiece for them.

Fine needlework is as much of an art in Puerto Rico as it is in some of the older European countries. There is no doubt that with proper organization and promotion through American stylists it could be developed into a big source of revenue for the people of the island. Even without such marketing assistance they shipped needlework valued at \$23,307,793 to the mainland during 1945. Owing to the volatile nature of the fashion industry it is conceivable that needlework may become important air cargo.

That brisk trade relations exist between the United States and Puerto Rico is indicated in a recent report of the United States Department of Commerce. It shows that during the first three months of 1946 the value of shipments from the mainland to Puerto Rico increased \$29,000,000 over the corresponding period of 1945. Grains



AT CATANO—Exterior of the Puerto Rico Development Company glass plant.

and grain preparations jumped from less than \$500,000 to more than \$6,000,000. Meat and dairy products were each \$2,000,000 more and cotton manufactures up from \$4,000,000 to \$7,-

The Author

A native of Alabama, Carol Waterman has worked all his life for the Waterman Steamship Corporation of which he was vice president prior to the war. At the outbreak of the war he joined the United States Navy and last year became a lieutenant commander. During his last year-and-a-half of service, he was attached to the Naval Air Transport Service. Before that he was attached to Squadron VFV-1 at Floyd Bennett Field. Since his return to civilian life, Waterman has taken over the post of vice president of Waterman Airlines in which capacity he is now serving.

000,000. On the Puerto Rican side of the ledger their shipments to the mainland were primarily sugar and rum, and the total showed a decline of \$1,000,000 over the first quarter of 1945. However, with such a healthy economy between the United States and her Caribbean possession it is reasonable to expect a steady development of commerce much of which will be expedited by air transportation.

SHRIMP VIA C & S AIR FREIGHT



Ralph Duncan (right), shrimp processor and distributor of Biloxi, Mississippi, and Dr. Spencer A. Larsen, well-known director of air cargo research at Wayne University, Detroit, inspect the first plane-load of fresh shrimp ever to be flown without ice. A Chicago and Southern Air Lines cargoplane flew the 3,200-pound consignment from Biloxi to Detroit in less than six hours. The shrimp had been caught only the day before, and processed and deheaded in the Duncan plant. Chilled to a temperature of approximately 33 degrees, the seafood was packed in Pliofilm bags manufactured by the Goodyear Tire and Rubber Company. Each bag—contents 40 pounds—was placed in an insulated carton which was sealed with tape. The method was developed by the Hinde and Dauch Company, Sandusky, Ohio, in conjunction with Larsen, Goodyear, C & S, and the Shellmar Products Company, Mount Vernon, Ohio. Some 50 percent in the gross shipping weight is saved through the use of this method.

CAB Examiner For PCA-NEA Merger

Merger of Northeast Airlines into Capital Airlines-PCA would not create a monopoly, endanger another airline, or involve overpayment for NEA's assets and certificates, according to Ross I. Newmann, Civil Aeronautics Board examiner.

Six airlines are opposing the merger: American, Colonial, Eastern, National, Trans World, and United.

Newmann stated that the transaction was consistent with public interest. The basis of two shares of NEA stock for one of PCA was found equitable by the examiner. NEA, he said, has been receiving the second highest mail pay rate of any air carrier in the United States, and the airline has not been able to show a profit. With far greater competition on the New York-Boston run now on the horizon, Newmann could not see this paying off sufficiently to offset NEA's economic problems. He conceded, however, that there has been very little interchange of passengers between the two airlines, but added that single carrier service between cities on the NEA-PCA networks could attract new traffic.

KLM Constellation Sets New Mark to Amsterdam

A transatlantic speed record between New York and Amsterdam was established last month, when Captain Everet Van Dyk, flying a KLM *Constellation* landed at the Schiphol Airport, 14 hours and five minutes after his departure from LaGuardia Field. The 3,200-mile great circle route over which the plane flew is the shortest distance between New York and Amsterdam. It was the same route that Captains Charles Kingford Smith and Van Dyk flew 16 years ago when they made the first successful westward crossing of the Atlantic between Ireland and New York in a three-engined Fokker F7b, in 48 hours.



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PACKET MAILCAR — Fairchild cargoplane which made first mail run with air mail sorted aboard.

Air Mail

Progress



THE first of this month was the signal for the booting out of the eight-cent air mail rate and the inauguration of the five-cent rate.

The first of next month signalizes yet another advance: deep slashes in the rates for airborne letters addressed to all parts of the world.

As in the case of the eight-to-five reduction (which originally was predicted 13 months ago at the 25th anniversary transcontinental air mail luncheon in the Waldorf Astoria, sponsored by the Aviation Section of the New York Board of Trade), the global rate

cut was the culmination of efforts by Postmaster General Robert E. Hannegan to effect a standard of low-cost, high-speed air mail.

The United States takes the lead in pushing down the costs. According to reports, foreign nations are enthusiastic about lowering the rates—and, if indications are what they appear to be from the American vantage point, all other countries will be pushing down their own rates pretty soon.

As shown in the table accompanying this article, a feature of the new schedules is that a single low rate is applied to each of the large regions of the world. Presently there are a number of different rates applying to one region. For example, the current rate to Colombia is 15 cents, and to Brazil 20 cents. Starting November 1, a 10-cent stamp affixed to a letter weighing no more than a half-ounce will bring it by air to any country in South America.

Domestically, another air mail marker was set up when a Fairchild *Packet*, fully equipped with mail-sorting equipment, demonstrated the feasibility of flying mail coast-to-coast and sorting it en route.* With United Air Lines pilots at the controls, three experienced railway mail clerks were carried in the big

* See *Packet Mailcar* in April, 1946 **AIR TRANSPORTATION**.

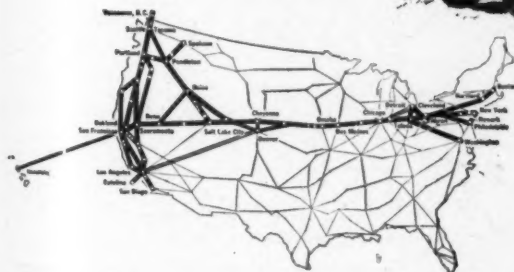
cargoplane. It was the first time that the *Packet* was commercially operated.

Carrying a full load of mail—16,000 pounds—the big plane followed the original United States Air Mail Route 1, which was opened in 1920. With New York as the starting point and San Francisco as the destination, stops were made at Cleveland, Chicago, Omaha, Denver, Cheyenne, and Salt Lake City to discharge and take on loads. There was a second demonstration two days after the five-cent air mail inaugural flight when the *Packet* flew from Frisco to Seattle, with four intermediate stops.

It is interesting to compare today's five-cent air mail rate with the 24-cent rate established with the first transcontinental air mail flight 26 years ago.

While air mail is very much in the news these days, the helicopter must come in for its share of the credit. And there is a curious tale to tell in this connection. It was the same luncheon at which Hannegan promised nickel air mail that John F. Budd proposed the establishment of a helicopter air mail base for New York and other cities. The ball was started rolling a month later when he unfolded his complete plan before a group of America's

4 ways your business can profit by **UNITED AIR FREIGHT SERVICE**



• Whatever goods your company has to ship, whatever supplies you require—there are advantages in using United's direct, low-priced Air Freight Service to speed your operations. Here are some of the most important ones provided by the giant Cargoliners of the Main Line Airway, linking 60 key cities across the nation.

Speed—quick receipt of needed supplies, merchandise, materials, via Cargoliner helps maintain your production levels.

Economy *United has drastically reduced its Air Freight rates.* With regular shipments by United Air Freight you avoid heavy warehousing charges; reduce extensive inventories; lower handling costs; and by lightweight packaging save much dead weight cost.

Good Will—customers appreciate the fast and dependable receipt of your goods which United Air Freight provides.

New Markets—using the time-saving coast-to-coast Main Line Airway, you can serve in a matter of hours markets heretofore out of reach because of time distance.

Convenient pick-up and delivery in most major cities, frequent, regular flights and special charter flights are further features of this modern-way-to-ship.



Ask our representatives about how United Air Freight can benefit your business. Or write *Air Cargo Division, United Air Lines, 5959 So. Cicero Ave., Chicago 38, Ill.*

UNITED
PASSENGERS



AIR LINES
MAIL • EXPRESS • FREIGHT



SIKORSKY R-5—This is the type of helicopter used by the Post Office Department in its air mail tests. Here it is shown proving its lift capacity by taking up 16 "passengers" in addition to a two-man crew.

leading rotary wing experts at the Engineers Club in New York.

Interest was awakened in Washington, with the result that tests for the carriage of mail by helicopter were scheduled in the Los Angeles, Chicago, and New York areas. As reported in last month's *AIR TRANSPORTATION*, the trials in Los Angeles were highly successful after a number of Army Sikorsky R-5s strutted their stuff on regular schedules.

The Chicago tryouts were set to begin this month, and will cover a period of three weeks. Directing the operation is M. H. Ackerman, Atlanta post office inspector-in-charge. Five Sikorskys comprise the helicopter fleet.

Operation base for the entire experiment is the Chicago Municipal Airport, with the roofs of the Merchandise Mart and the new post office building as

landing sites. The helicopters will radiate from the Windy City to Waukegan and intermediate points on the north; Gary and Joliet and intermediate points on the south; Elgin and Aurora and intermediate points on the west.

Wherever possible, Federal buildings have been selected as hover sites. Pick-up devices snatch up the mail while the helicopters are moving at a 35-mile-an-hour clip. Cruising speed of the Sikorskys is 80 miles an hour.

Experience has taught the post office officials that the use of the landing fields usually made it necessary to drop off and collect mail at spots too far from the post office.

It is the hope of the Post Office Department to institute 12-hour air mail service to any two metropolitan areas in the United States. When? In 1947, they say!

Bendix Gives Out Details On its Model K Helicopter

First details of the Model K helicopter have been released by Peter N. Jansen, vice president-operations of Bendix Helicopter, Inc., who was careful to stress the point that the machine is not a prototype of any



Bendix Model K

Bendix helicopter, but a full-scale flying model on which various new aerodynamic principles and mechanical arrangements are being service-tested before the introduction of the company's four-passenger job.

Designed by Jansen, the Model K has provisions for only the pilot. It is of the counter-rotating coaxial type, which permits the elimination of the familiar long tail and tail-rotor. This, Jansen states, does away with horsepower waste, since all power is directed into useful lift and propulsion. The machine, driven by a 100-horsepower Continental aircraft engine, has a gross weight of 1,200 pounds.

Construction on a new 100,000 square foot factory building on a 30-acre tract is now in progress at Stratford, Connecticut. It is expected to be in operation by next February. First sales of Bendix helicopters will be concentrated on commercial and Government organizations. Release of the company's rotary wing aircraft to the general public will come at a time when these machines can be produced at a lower price.

Foreign Air Mail Rates Effective Nov. 1, 1946

(Per Half-Ounce)

10 CENTS

Argentina	Falkland Islands
Bolivia	French Guiana
Brazil	Newfoundland
British Guiana	Paraguay
Chile	Peru
Colombia	Surinam
Ecuador	Uruguay
	Venezuela

15 CENTS

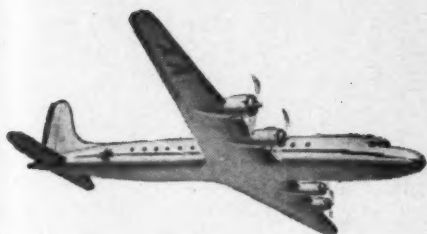
Albania	Latvia
Algeria	Libia
Austria	Lithuania
Azores	Luxembourg
Belgium	Madeira Island
Bulgaria	Malta
Corsica	Morocco (British)
Czechoslovakia	Morocco (French)
Denmark	Morocco (Spanish)
Egypt	Netherlands
Estonia	Norway
Faroe Islands	Poland
Finland	Portugal
France	Rumania
Germany	Spain (including Spanish offices in North Africa)
Gibraltar	Sweden
Great Britain (including Northern Ireland)	Switzerland
Greece	Tunisia
Hungary	Turkey
Iceland	USSR
Ireland	Vatican City
Italy	Yugoslavia

25 CENTS

Aden	Kenya and Uganda
Afghanistan	Lebanon
Anglo-Egyptian Sudan	Liberia
Angola (Portuguese West Africa)	Macao
Australia	Madagascar
Bahrein	Malay States (Nonfederated)
Belgian Congo	Manchuria
British Cameroons	Mauritania
British Somaliland	Mauritius
Brunei	Netherlands Indies
Burma	New Caledonia
Canary Islands	New Zealand
Cape Verde Islands	Niger
Ceylon	Nigeria
China	North Borneo
Cyprus	Nyasaland Protectorate
Dahomey	Palestine
Eritrea	Philippines
Ethiopia	Portuguese East Africa (Mozambique)
Federated Malay States	Portuguese Guinea
Fiji	Portuguese India
French Cameroons	Reunion
French Equatorial Africa	Rhodesia (Northern)
French Guinea	Rhodesia (Southern)
French Indo-China	Rio de Oro
French Settlements in India	Sarawak
French Somaliland	Saudi Arabia
French Sudan	Senegal
French Togoland	Sierra Leone
Gambia	Southwest Africa
Gold Coast Colony	Spanish Guinea
Hong Kong	Straits Settlements
India (British)	Swria
Iran	Tanganyika
Iraq	Trans-Jordan
Italian Somaliland	Union of South Africa
Ivory Coast	Yemen
	Zanzibar

Continental Skystreamers

The term, *Skystreamers*, will henceforth adorn the planes of Continental Air Lines. This is the result of a two-month slogan contest to obtain a suitable name for the airline's 15 transports.



AMERICAN AIRLINES *Airfreight* Saves priceless time for Coty

COTY, famous for perfumes and cosmetics, is a frequent user of American Airlines Airfreight. "Time is priceless in this business, and we can conserve it with Airfreight," one Coty man put it.

Having shipped on the average of hundreds of pounds per week for more than a year, Coty knows that American Airlines Airfreight saves days on shipments from New York throughout North America. Airfreight helps Coty to maintain distribution schedules, meet local competition in distant areas and overcome shortages.

Hundreds of shippers in widely varying lines agree Airfreight saves time—so American Airfreight is regularly carrying newspapers, fashions, spare parts and a thousand other commodities. Reduced rates mean new economy—but get all the facts for yourself. Call your nearest American Airlines office.



FOR THE SAKE OF SPEED IN AIR TRANSPORTATION



Driver of a truck for the Willet Company of Chicago, contractors to United Air Lines for the pickup and delivery of air freight, shown communicating with a dispatcher via a two-way Raytheon radiophone. Six such radiophones have been installed in Willet trucks. A shipper requiring immediate pickup of his air cargo can call United, which in turn 'phones the Willet dispatcher, who radiophones rerouting orders to the nearest truck—all in 45 minutes. Previously the chain of instructions took hours, and many times the driver never received the message. The Raytheon radiophones have operated successfully at a range of 15 miles.

60 New Airports For N. Y., N. J., Conn. Are Recommended in Plan

Announcement has been made by the Regional Plan Association of an airport plan proposing the creation by the New York-New Jersey-Connecticut region of a central airport agency. It also called for the construction of 60 new airfields, including a major airport in the Jersey Meadows.

The details of the two-year study undertaken at the request of the Civil Aeronautics Authority were made public earlier this month. The association stated that full coordination of the finances and operation of the metropolitan airport system has become essential if the New York area is to maintain its position as a center of international aviation.

Paul Windels, president of the association, reported that he plans soon after the gubernatorial elections to ask the Governors-elect of the three states to confer on a joint airport plan which could be recommended to the respective legislatures in January.

"It would seem imperative," he said, "in view of the closely integrated area to be served, the importance of an equitable distribution of facilities and the need to avoid wasteful duplication due to political rivalries, that the major airport program as outlined by the conference and accepted by the CAA be operated by a regional agency serving in the needs of the three states involved."

The CAA is using the study as a basis for allocating the metropolitan area's share for airport construction and improvement under the Federal Airport Act.* Although the full text of the report has not been made public, the summary noted that each separately developed airport has tended to compete for the most profitable type of business. Airports have taken on special air service functions: international; domestic; short-haul; long-haul; feeder; cargo; etc. According to the study, such competition undermines effective operation, with the result that there is an increasing failure to obtain the maximum number of flights at terminal airports.

Under a central airport agency, functions would be assigned to various airports, based upon metropolitan needs and the ability of each field to handle different specialized air traffic. The study pointed out that this could be done regardless of income, since all moneys would be pooled in a common treasury. Windels suggested that the Port of New York Authority might handle such a project, and that if this were not feasible a tristate agency could be organized.

Five Jersey fields have been recommended for development: Schlossbach Airport, Asbury Park; Hadley Airport, South Plainfield; Metropolitan Airport, Secaucus; Caldwell-Wright Airport, Caldwell; and Teterboro Airport, Teterboro. Also recommended are Westchester Airport, Rye, New York; Grumman Airport, Bethpage, Long Island, New York; and Bridgeport Airport, Bridgeport, Connecticut.

* See September, 1946 AIR TRANSPORTATION.

Scandinair Organized and Regular Flights Inaugurated

A pooling system in which Danish Airlines (DDL), Norwegian Airlines (DNL), and Swedish Intercontinental Airlines (SILA) have entered, has been made public by Tore H. Nilert, head of the new organization in North America which will operate as Scandinavian Airlines System. The plan calls for the pooling of equipment and personnel for joint operations between the United States and Copenhagen, Oslo, and Stockholm.

Nilert pointed out that this was the first time in aviation history that three nations have entered into such an agreement. Regular transatlantic service with Douglas Sky-masters was inaugurated last month. In



T. H. Nilert

P. A. Norlin

addition there is now twice-weekly charter service to the three Scandinavian countries, "to relieve the backlog of traffic and heavy demands for reservations." The companies' continental lines offer connecting service to all the major cities of Europe.

The airline was host to a number of leading Scandinavian journalists who were flown to this country for a visit. They were greeted by American writers at a reception in the Rainbow Room atop the RCA Building in New York, and later in the Grand Ballroom of the Waldorf-Astoria. The latter affair was attended by such dignitaries as Fiorello H. LaGuardia, UNRRA director; Trygve Lie, United Nations secretary general; Prince Axel of Denmark; and by a number of important Scandinavian diplomats, Cabinet members, and aviation leaders. Matching this was a flight of representatives of the American press and radio who boarded an SAS Sky-master for the Scandinavian capital cities where reciprocal parties took place.

The new agreement is valid for five years and establishes a board of directors for the new company of six members—two from each country—with the chairmanship rotating annually among Denmark, Norway, and Sweden.

Heading Scandinair is Per A. Norlin. Nilert, who has been United States representative for SILA, will work in cooperation with Max Westphall, DDL's representative here, and Captain Gert Meidell, who is in this country in the same capacity for DNL.

Scandinair's headquarters address in New York is 270 Park Avenue. A reservations and information office is maintained at 630 Fifth Avenue, a city dispatch and ticket office at 47 West 46 Street, and a ticket and information office at 6 West 51 Street.

PAA Signs Movie Contract

Pan American has signed a contract with Seven Seas Film Corporation for 16 mm motion picture exhibitions in flight. It is understood that movies soon will be part of the standard equipment of all PAA Clippers.

WESTERN

Air Freight

OFFERS MORE



Compare the advantages of shipping by Western Air Freight. Shipments may be as small as 25 pounds or up to tons. Service is on a *daily schedule* ... in planes manned by experienced airline pilots.

You can ship by Western to many points not reached by contract lines or other scheduled carriers, for Western covers 9 states daily ... California, Nevada, Utah, Colorado, South Dakota, Nebraska, Wyoming and Montana. Western offers also, nationwide service in conjunction with connecting carriers.

Instead of being limited to the large centers you can broaden your markets to meet the demand of points out of reach by other methods of transportation.

For complete information on schedules and tariffs ... Cargo Traffic Department, 510 West 6th Street, Los Angeles 14.

Check these ADVANTAGES

- ✓ DAILY Scheduled SERVICE
- ✓ COVERS 9 STATES
- ✓ NATIONWIDE Connecting SERVICE
- ✓ LOW RATES
- ✓ SHIPMENTS FROM 25 POUNDS UP
- ✓ PICK-UP and DELIVERY
- ✓ NEW MARKETS

WESTERN *Air Freight*

"PUTS WINGS
ON WEIGHT"

WESTERN AIR LINES

AMERICA'S PIONEER AIRLINE

KLM Now Flies on Benrus Watch Time



THOUGH it is the world's oldest airline, KLM uses the newest aircraft available for regular service from New York to Amsterdam and major European cities.

Significantly, the far-flung schedules of this airline are timed with split-second precision by BENRUS, pioneer in timing airline flights! As pilots the world over will tell you . . . for guaranteed accuracy and enduring dependability, you can't beat a BENRUS.

And BENRUS is a winner for beauty, too! The new BENRUS models are smarter, more distinguished than ever before. See them at leading jewelers everywhere.

Benrus *Official Watch of Famous Airlines*

Forwarders IN AIR FREIGHT

The big headline news this month is the distribution of applications for the establishment of agencies for the sale of international air transportation to some 2,000 travel and freight agents in the United States, Canada, Newfoundland, and Bermuda by the North American branch office of the International Air Transport Association.

Air Transportation Magazine feels rightly proud of this action because John F. Budd, publisher, was the original sparkplug behind the idea to set an official brokerage rate for air freight forwarders. What the IATA has done for the foreign freight forwarders is the direct culmination of more than two years' labor and argument, in the United States and in Canada.

Last April, Air Transportation broke this news of a trail-breaking decision by the IATA:

"The rate of commission on both cash and credit transactions in the sale of international scheduled air freight and air freight-express transportation, including extra sections, shall be 5%, and the rate of commission for the carriage of air freight and air freight-express in chartered aircraft shall not exceed 2½%. In the case of charters where both passengers and air freight and air freight-express are carried, the commission shall not exceed 2½% of the charter rate. The commission will be calculated only on that portion of the transportation charge for scheduled air transportation which is based upon weight or volume, except that where a shipment is moving solely on an ad valorem charge, then the commission shall be paid on such ad valorem charge."

It was a milestone in the history of the industry, even though final approval rests with the individual governments. Previously TACA Airways had followed Budd's suggestion to recognize the foreign freight forwarder and establish a rate of brokerage on all international air shipments; this was later instituted by Trans Caribbean Air Cargo Lines and others.

Now, applications for agencies have gone out. (See page 63)...What will this mean?

1. The replies will be of considerable help in setting up agencies throughout North America, peopled by responsible personnel. Accredited agents will be certified by international airline operators to arrange travel, shipping, and cargo forwarding to every part of the world.

2. High standards will be kept in order to keep these agencies at the peak of efficiency.

3. Agents certified by one IATA regional conference will be able to sell air transportation over routes under the jurisdiction of all other conferences. This is a top-notch reciprocal arrangement.

4. There will be uniformity in dealings between agencies and carriers through a standard sales agreement which, at the present time, is undergoing final scrutiny by the IATA Legal Committee.

Now Budd has gone a step farther: he has supplied the IATA authorities with a list of bona fide foreign freight forwarders, together with a proposal that all these firms—"not the letterhead boys collecting brokerage"—be accredited as agencies. Reaffirming his conviction that there is a tremendous future for air express and air freight, especially in international movement, Budd pointed out that "once foreign freight forwarders are made agents and receive 5% brokerage, you will have a great sales force out developing business—then watch the volume climb to untold heights."

Recently an article written by John F. Budd for The Arbitration Journal stressed the point that one of the most important duties of a publisher is to enlist himself in positive service to his readers.

With pride we know that the publisher of this magazine practices what he preaches. The proof is in the pudding—and that pudding is shaping up to be an exceedingly good one.

(Including United States Territories)

AIRPLANES

(on order or being modified)

(in operation)

—

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[illegible]

SURPLUS.

Available for immediate delivery
Partial listing of our complete stock of parts

GENERATORS

Type	Model	Specs	P/N	Net
Type 01	Leece Neville	100 Amp., 24 V	P/N 22602	\$ 88.28
Type 04	Eclipse	100 Amp., 24 V	P/N 128250-901-9	104.68
Type E7A	Leece Neville	50 Amp., 12 V	P/N 24500	62.37
Type M2	Leece Neville	50 Amp., 24 V	P/N 24225	90.00

STARTERS

Type	Model	Specs	P/N	Net
Type JH3R	Jack & Heintz	24 Volt	P/N 280R3	281.25
Type J1	Eclipse	24 Volt	P/N 756-21B	95.29
Type H6	Eclipse	12 Volt	P/N 444-4F	186.75
Type G6	Eclipse	24 Volt	P/N 915-4E	228.00
Magneto—American Bosch				P/N MJN14K-301 139.25
Magneto—American Bosch				P/N MJN14K-307 105.00
Cable Assy.—Ignit. Shld. for R2000-7; Titeflex				P/N 22922 333.75
Manifold Assy. for R-2800; Titeflex				P/N 22450 328.41
Ignition Assy. Shld. for R-975-11 Eng.; Breeze				P/N E616-4P-AN 78.29
Conduit for R-2000-7 Engine; Titeflex				P/N 28007 6.77
Conduit for R-2000-7 Engine; Titeflex				P/N 28008 6.77
Conduit for R-2000-7 Engine; Titeflex				P/N 28009 6.77
Inverter Assy.—Type MG149F—Rotary 750 V.				57.75
Vibrator—American Bosch—24 Volt				P/N VJR24 B5X 7.50
Armature Assy. for Delco Remy—Type 01 Gen.				P/N 5365-786 29.17

Model	Specs	P/N	Net
Hamilton Standard Blades		6507A-0	\$262.50
Hamilton Standard Blades		6353A-18	157.50
Hamilton Standard Propeller		2D-30-233-6101A-12	656.25
Governor, Reconditioned		4G8-G23G	150.00

Also, parts for Hamilton Standard Propeller

Model	Specs	P/N	Net
Compass—Type B-16; Pioneer		P/N 1818-4A	32.50
Compass Indicator, Remote; Ternstedt		P/N T95660	17.55
Airspeed Ind.—Type B-8, 20 to 2000; Pioneer		P/N 1426-2J-A1	9.27
Rate of Climb Indicator—Type AN5825-1;			
0 to 6000 ft/min; Pioneer		P/N 1636-6H-B1	51.35
Directional Gyro; Jack & Heintz		P/N JH5500	117.00
Gyro Horizon; Jack & Heintz		P/N 6500A	131.30
Pitot Tube for DC-4; Kollsman		P/N 781-02	7.80

Model	Specs	P/N	Net
Manifold Pressure Gage—Dual 1 & 2,			
Range 10 to 75; Ranco		P/N 31854-12	58.50
Oil Pressure Gage—Type B8A—0 to 200 lbs;			
U. S. Gauge		P/N AW1-7/8-14-CL	3.75
Generator Tachometer—Pad Type; G.E.		P/N 2CM5BAL	17.55
Thermometer Cylinder Head Temp—Range 0°			
to 350° C Dual; Dejur-Amsco		P/N Z-22.22	20.84
Thermo. Oil—50° to 150° C—Dual; Auto-Life		P/N 10499-A	29.25

ENGINE PARTS FOR R1830-92 Less WAA Discount of 25%

PART NUMBER	DESCRIPTION	PRICE	PART NUMBER	DESCRIPTION	PRICE	PART NUMBER	DESCRIPTION	PRICE
1122	Gear	\$ 2.23	24173	Shaft	\$22.40	33641	Rod	\$ 1.40
8323	Nut	.87	24192	Scavenger	.94	33813	Bushing	.74
8363	Cam	51.22	24195	Strainer	1.45	33901	Gear	282.75
9514	Screw	1.12	24248	Bolt	3.69	34207	Gear	6.35
10449	Nut	.04	24306	Nut	4.10	34212	Bearing	10.26
14537	Coupling	1.18	24701	Screen	6.25	34850	Cap	.83
15496	Cover	.82	24919	Pin	4.53	34851	Insert	.48
16274	Screw	.25	24966	Bearing	19.38	35961	Cover	.59
17363	Guide	.76	25022	Bearing	2.77	36163	Case	117.21
18236	Liner	13.98	25616	Housing	2.60	38314	Master Rod	336.54
18471	Gear	5.11	25861	Shaft	4.23	38460	Pinion	6.70
18554	Button	.82	26193	Gear	15.79	40835	Strainer	3.83
18629	Guide	3.83	26199	Bearing	.91	43893	Tubing	2.50
19575	Screw	.43	26475	Ring	.31	46152	Segment	16.44
19667	Ring	.56	26484	Spacer	3.41	46798	Shaft	27.72
19667-P10W	Ring	.56	26485	Adaptor	25.60	48362	Shaft	656.01
19778	Gear	11.24	26763	Bolt	1.85	49956	Flange	2.58
19878	Support	3.33	27060	Pipe	3.77	50512	Ring	.36
20117	Bushing	1.03	27192	Nut	20.55	50724	Valve	21.25
20416	Bearing	3.82	28356-P10	Ring	.58	55226	Valve	16.25
20506	Rod	20.58	28781	Body	1.53	59941	Rocker	7.71
20763	Gear	4.85	28848	Gear	6.62	59942	Rocker	4.08
20764	Gear	4.88	28953	Spacer	10.82	59986	Spring	9.00
20986	Spacer	12.19	31419-P5	Bushing	6.75	76159	Gear	3.60
21104	Nut	.31	31406-P10	Ring	.56	82442 or		
21577	Plunger	.51	31626	Anchor	41.56	90170	Cylinder	133.50
22406	Adaptor	1.45	31941	Plug	4.19	82444 or		
24073	Bushing	5.88	32331	Valve	6.44	90165	Cylinder	133.50
24075	Ring	1.05	32363	Pump	22.75	82445 or		
24077	Stud	2.30	32737	Tappet	3.46	90167	Cylinder	133.50
24078	Gear	24.94	32820	Cam	10.63			

Also seals, gaskets, glands, studs, pins etc. in substantial quantities.

MN-31—Bendix Automatic Direction Finder—Complete	(New)	\$950.00
MN-26K—Bendix Receiver	(New)	250.00
ART-13—Collins Transmitter—Complete with Power Supply	(New)	240.00
HTS4GE—Dennison Hydraulic Test Stand—		
Gasoline Engine Driven	(New)	450.00
T-12—Transmitter and Radio Receiver—Complete	(Used)	850.00
A-3—Sperry Automatic Pilot—Complete	(Used)	850.00

Accessories for R-2800-31

Fairchild 24 with 145 Warner—No time since recovered		
and engine major; re-licensed		\$ 7,500.00
PBY-5A—Catalina Amphibian		15,000.00
Lockheed Hudson—with P & W R-1830-67		5,000.00
755-9—Jacobs Engines—No Time Since CAA Shop Major		1,000.00
R-2800-31 Engines—Low Time		1,350.00
23E50-473-6477-A-12—Propeller—Low Time	(Used)	500.00

The above items are offered subject to prior sale, F.O.B. Flushing, New York



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OCTOBER 1946—PAGE 47

Spokane Story

COMMERCIALLY operated DC-4s are meeting regular schedules in Spokane, Washington, this Fall. Passengers await these planes in one of the largest terminal buildings in the country. This rich inland farm empire is preparing for the greatest air express shipments of fresh fruit in its history. . . .

All because of the ingenuity and perseverance of private aviation.

It may not sound like news—that four-engine planes are landing in Spokane. But it was big news there. For early last spring Northwest Airlines instituted four-engine planes on its transcontinental run—and until last month those planes flew over Spokane, although it is one of the largest cities on Northwest's line.

This story begins nearly a year ago when NWA notified Spokane it was planning to use DC-4s on the "transcon" operation. City officials were informed that the municipally-owned Felts Field was unsatisfactory for this type of equipment. Pilots were faced with the double threat of a dog-leg turn around hills for landing, and a runway with only 4,500 feet of concrete. True, there was an additional 1,500 feet of dirt—but this was useless in wet winter weather.

Across town was Geiger Field on a high plateau—bulldozed by the Army during the war out of a pitch-pine forest. It had three directional runways—two of them 8,200 feet, and the third 6,800 feet. Northwest officials termed it the finest structural concrete job in North America.

The hitch was this:

Unless it was declared surplus, Spokane could not take it over. The Army wasn't making total use of the field. It lies east of the Cascade Mountains which are the first line of defense on the North Pacific Coast. And the Army was reluctant to have this fine property declared surplus.

Unable to take it over, the city couldn't construct a terminal building, cafe, and other facilities necessary for an airport on a commercial line. On the other hand, NWA was doing a capacity business out of Spokane in two-motored DC-3s. It saw possibilities of

not only filling the four-engine planes with passengers, but of adding loads of highly perishable cherries, apricots, and peaches during season—a lucrative business.

Airline and city officials took the problem to Washington, D. C. Last May, the Army came up with a "revocable" lease which permits the airlines use of Geiger until such time as it is declared surplus and the City of Spokane takes it over.

Progress at Geiger

The only other airline operating into Spokane at the time was United. UAL officials agreed to share a proportional burden of the cost. At that time they ran four flights daily to NWA's 20. Northwest agreed to build an administration building and establish other facilities.

Young, energetic Frank C. Judd, vice-president and general manager of the Western region, agreed to go ahead with the project. NWA's engineers and architects drew up plans for a \$50,000 building, and Norman Shaw, plant engineer under Judd, was given the tough job of putting the structure together.

Immediately, Shaw ran into a stone wall. There were no building materials. Not daunted he found five old decrepit Army barracks at a surplus sale and

bought them. He wheedled and begged among the town's merchants, and fought for carpenters and other construction men.

In 90 days, amazed residents of Spokane awakened to the fact they had a phenomenon on their hands. In place of the old barracks buildings was a long, low, ranch-like building. Huge plate glass windows faced the field. Brown mastic tile served as flooring for the 215-foot-long waiting room. Knotty pine walls brightened the inside of the structure. And the *piece de resistance* was a huge granite fireplace which rose in the middle of the waiting room.

Then the Civil Aeronautics Administration inspectors flew over from Seattle to make their final inspection, and once more the monkey wrench that had threatened the venture from the start was thrown into the machinery. The inspectors didn't like what they saw.

Most of their objections were remediable—but one looked like a big order. All of Northwest's equipment—radios, stockpile, cargo facilities, and the like—was at Felts Field. The last operation at night was 11:20. The first one in the morning was at 6:35.

"How," the inspectors wanted to know, "do you expect to move some 80 tons of equipment all the way across town in seven hours?"

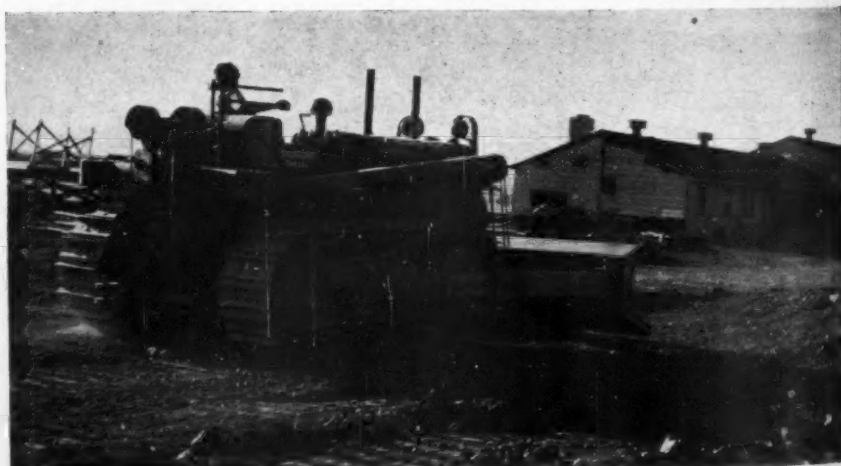
"We'll do it," said Judd and Shaw.

"More power to you," the CAA men said. "But we'll have to be shown."

They returned to Seattle, but agreed to be at Geiger at 2 a.m. moving day—July 21—and see what they could see.

At 11:20 p.m. the last plane roared off Felts Field.

At 11:21 there began an episode that must have reminded Spokane World War I veterans of the taxicab army that left Paris. All the vehicles of two trucking companies in Spokane, every rent-



QUICK WORK—A bulldozer goes through the paces at Geiger Field, readying the area near the Army barracks which were converted into an attractive administration building in 90 days.



PRESTO!—A portion of the 80 tons of equipment moved by truck, taxi, limousine, private car, and plane from Felts Field to Geiger Field, between NWA's last night flight and first morning flight.

able car in the city, some taxicabs and limousines, and the private automobiles of every man on the staff, went into operation. Even a DC-3 was used.

Over 100 men swarmed into Northwest's facilities at the airport.

By 2 a.m., when the CAA inspectors

arrived, they had something at which to blink their eyes. The stockpile and communications systems had been moved and installed. Equipment littered the big Army hangar which had been loaned to the airlines. But there was nothing left at Felts.

An hour later the CAA inspectors had passed the operation. They were given hot coffee in the commissary which had been lifted bodily from Felts and shipped to Geiger Field. Women were preparing breakfast for the morning flight.

The flight came in and went out on schedule that morning—and after a brief spontaneous cheer, the weary crew went home to bed.

Cross-Country Flight Of Dozen Racehorses by AAE

A dozen thoroughbreds, representing more than \$150,000 in racing horseflesh, were flown from Saratoga to Los Angeles in what has been termed by American Air Express the largest mass movement of racehorses by air. Three AAE planes did the job following conclusion of the annual yearling and horses-in-training sale at the New York State racing center. The non-scheduled airline has flown 38 to date in addition to making regular cargo flights.

Low Air Express Rates To Alaska Set by NWA

The first domestic air express service between the United States and Alaska with rates approximating those between cities in this country will be offered this month when Northwest Airlines begins daily flights between its Seattle-Tacoma base and Anchorage, Alaska. The simplified service will require only a single waybill for shipments between United States points and the Territory.

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Effective November 1, 1946, our complete engine overhaul shop, to be certified by C.A.A., and planned according to Pratt & Whitney standards, will commence overhaul of Pratt & Whitney 1830-92 engines.

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Airport to be on AMBER 7 Airway with Range & ACS station operative by January 1, 1947.

Millville Municipal Airport is only a few minutes' flying time to all the major industrial areas such as New York, Washington, Philadelphia, Baltimore, etc. Tri-City, in conjunction with Airwork Corporation, offers the ultimate in licensed aircraft maintenance. A representative will be glad to discuss with you your maintenance problems. Let Tri-City lower your maintenance costs. Phone Millville 2.

Will Air Cargo Traffic Exceed

On a number of occasions certain aviation authorities have gone on record as stating that within the near future the revenues derived from air cargo traffic (mail, express, freight) will exceed air passenger revenues. We have heard views on this subject, pro and con, which led us to contact key air cargo men for some expert words on the matter. Getting these chaps behind a desk is a difficult task these days. Taking into consideration the current foreign and domestic traffic as well as the potentials, did they think that eventually the air cargo business would become the big brother to the air passenger business? Most of the answers which follow were written on the run, and they tell an eye-opening story.

Scheduled Airlines

M. L. ANDERSON

*Traffic Manager, Air Mail-Cargo
Braniff International Airways*



WHEN stories of the first shipments of volume air cargo were told about two years ago, news accounts were found on front and society pages of the newspapers. For the first planeload shipments of products were glamour cargoes—flowers, fruits and fancily packaged vegetables.

Today, business, finance, and commerce sections of the nation's press are delegated the news of expanding freight, express and mail traffic. For now the cargo programs of the commercial airlines are no longer "supplements" to their passenger service, but

rather separate divisions designed to save money for the customers and to make it for the carriers.

The downward trend of cargo rates from the existing 75 cents a ton-mile in 1944 to the record low of 21 cents for the scheduled carriers—with a continued increase in volume—indicates that airsped cargo is now accepted as an everyday method of expediting business, and not a means for "emergency" occasions as in the past.

An unlimited number of new domestic and international markets have opened with these lowered rates and volume traffic, because products are now available in places where they were never salable before or were "salable" too late.

For instance, countries touched by Braniff International Airways' Latin American routes accounted for 81 percent of the total Latin purchasing power at the end of 1945, and American products will find new outlets in these 11 nations never before so quickly accessible to their home manufacturing plants.

Furthermore, as supply and demand gradually reach their peacetime level, the market will be flooded with competitive goods. And airsped merchandise as quality merchandise will move in even greater volume. With the new five-cent air mail rate, larger planes reducing load cost, more frequent charter operation, and the increase in cargo volume, it is not improbable that within the next five years, the airlines will count revenue from this traffic—both domestic and foreign—in larger figures than their passenger profits.

M. P. BICKLEY

*Manager of Cargo Sales
United Air Lines*



THERE are some crystal ball gazers who have envisioned the day when the transportation of goods by air will assume greater importance than the flying of passengers. More realistic philosophers decry this contention—but they do admit that air cargo's ultimate development will be to limits not yet imagined.

As a matter of fact, no one knows whether air cargo will surpass passenger business in this new and ambitious industry of ours, but it is safe to say that the growth of air cargo in the next 10 years will be comparable to the growth which air passenger business has enjoyed during the past 10 years.

The real impact of air cargo is just beginning to be felt. New volume freight rates, tailored to fit the tremendous load capacity of four-engined, high-speed *Cargoliners* have brought long-haul shipping costs as low as 12 cents per ton-mile. Every day new products are taking to the air.

As a result, the air freight business is growing fast. In the first half of 1946, United flew 3,530,500 cargo ton-miles, representing a 40 percent increase over the first half of 1945.

We are looking to a wider participation in the development of international markets through the fact that United serves all major ports on both the East and West Coasts. Thus we expect to see not only a large expansion of domestic

Air Passenger Traffic?

... A Symposium

air cargo business but a steadily increasing volume of air cargo moving through these gateways to foreign ports.

FRANCIS D. MILLER
*Director of Cargo Sales
American Airlines*



THE remarkable development of aviation during the past two decades and the spectacular achievements in air cargo transportation have fired the imagination of air enthusiasts the world over. Throughout the nation, to Mexico and to Europe, air freight today is a materialization of yesterday's predictions in air transportation. International air express and air cargo services are now a reality and are playing an increasingly important part in our daily business transactions.

Foreign trade prosperity for the United States is not "just around the corner." It is with us now. America is on the threshold of an unprecedented era of international trade. The problem is not how to interest customers all over the world to buy American goods, but rather how to develop and supply this vast market in years to come. Air transportation has provided the solution to this problem.

Many established foreign trade practices have now been outmoded and previous limitations in the transportation, handling and packaging of overseas shipments have been eliminated. By melting miles into minutes, inter-

national air cargo has opened up new opportunities for distribution and merchandising. To understand fully the effects of this new transportation service, it helps if you change your mental picture of America and America's markets. We are no longer weeks away from the large overseas markets—shipments can now be made from New York to London or Stockholm in twenty-four hours. Studies made by the United States Navy and several industrial research organizations have definitely proved that because of the substantial reduction in intransit time which air transportation makes possible, importers and exporters have been able to reduce effectively their total distribution cost. These economies have more than offset the additional cost of the air service and resulted in higher profits.

Progressive businessmen in this country have been quick to take advantage of this new transportation service. According to the Bureau of Census of the Department of Commerce, the volume of United States exports and imports by air has grown from about one million pounds in 1939 to almost 14 million pounds last year. This is but one indication of the tremendous amount of potential in the development of air cargo transportation, and we in American Airlines expect that within a few years the total revenue derived from air cargo will surpass the income from passenger traffic.

PAUL W. PATE
*Cargo-Mail Traffic Manager
Delta Air Lines*

WITHIN 10 years air freight will be the major source of revenue and profit for domestic airlines.

I do not feel hesitant in making such a prediction because it is my belief that the airlines will follow closely the overall pattern as laid down by the American railroads during their history, the only wide deviation from which will be the faster development of the airlines. Before the development of the steam engine, our railroads carried passengers only. At that time railroads were nothing but horse-powered wooden



stagecoaches that ran on rails. As business developed and improvements in equipment were introduced, freight made an inauspicious appearance. That is the point on which the airlines stand today.

The railroads continued to grow and develop and by 1890, freight revenue tripled passenger revenue. By 1941 freight revenue was nine times passenger revenue. Airlines will enjoy the same development—only more rapidly.

Delta Air Lines today uses two exclusive cargo ships which are brought into use only when freight shipments are too large or too heavy for the cargo bins of our combination (passenger-freight) ships. I believe this situation will be reversed before very long. Then, Delta will be flying a number of exclusive cargo ships on several different routes, and the freight bins on combination ships will catch the overflow from the scheduled freighters.

A few months ago only a few freight specialists had joined the aviation industry. The number has grown, but today they still amount to less than one percent of all airline personnel. Within five years I believe the volume of air freight will warrant the employment of trained freight men by the thousands.

With the recent receipt of new equipment, particularly the DC-4, the regular common carrier airlines can now offer dependable freight service on all scheduled flights. Scheduled air

freight creates an economical means of moving less planeload shipments. The top rate for air freight is 26.5 cents per ton-mile. Rates are lower, according to weight, to 21 cents per ton-mile, as compared with the single air express rate of 61.4 cents per ton-mile.

To predict the part gliders will play in air freight is too futuristic. Only time can accurately measure their part. However, without taking gliders into consideration, air freight will be able to play a major part in the transportation of any type of goods with the exception of coal, grain and lumber.

During the war, the airlines were prevented from actively developing cargo business because of military conscription of equipment and the presence of only a meager fleet to haul priority passengers and a smattering of priority mail and express. This picture has changed radically today, and all the research by the aviation industry during the stagnant war years is being placed in use by scheduled airlines.

As an example of air cargo possibilities, it can be pointed out that when Delta went into the air freight business August 15, 1946, predictions of total shipments for the first 30 days ranged about 20,000 pounds. Actually, during the month of September, we hauled 273,000 pounds.

STANLEY RUSS

*Director of Cargo Sales
Eastern Region
Trans World Airline*



AIR cargo, especially that in international commerce, is so much in the development stage today that it is rather difficult to predict accurately just what portion of our revenues it will produce five to 10 years from now. Rates for international express and air freight have just been reduced slightly more than 40 percent,

a factor that should prove a real stimulation to the use of the airlines in international commerce. These rates will be lowered even further in the future, I am certain, as more equipment, bigger capacities and improved facilities become available.

To date we've really only scratched the surface on the list of commodities that are potential air freight and as our nation's airlines push into new areas and give regular, reliable service to foreign markets, producers at home and abroad are going to be quick to recognize the new business possibilities and to utilize the speedy transportation service from farm or factory to market. I feel safe in continuing to say for the record:

Freight will be outselling passengers one of these days in the not too distant future.

ARTHUR C. SMITH
*Cargo Traffic Manager
Western Air Lines*



IT is my firm belief that within 10 years the revenues derived from air mail, air express, and air freight, will exceed the revenue derived from air passengers. In fact, it will not surprise me if it comes much sooner, depending on how quickly aircraft manufacturers can produce a plane operating at a cost of not more than five cents per ton-mile on a year-in and year-out basis. This should make it possible for the air carriers to put in rates low enough to attract cargo in volume and operate at a profit while offering the fastest service known to mankind.

JOHN A. SMITH
*Cargo Sales Manager
Continental Air Lines*

THERE is no doubt in my mind that eventually, probably within 10 or 15 years, revenues derived from air cargo traffic will exceed air passenger revenues. It is a case of his-



tory repeating itself. Every other type of transportation, from its inception, first carried man himself, before the need arose for carrying the heavier and bulkier goods of commerce. In each case the revenue derived from cargo traffic now exceeds that derived from passenger traffic.

Air cargo business has taken a big step forward and progress continues to be rapid. The transit time element of air transport opens a whole new field of possibilities which may make development comparatively more rapid than that experienced by surface modes of transport.

The speed of air transport makes possible the movement of perishables over previously impossible distances; it eases the warehousing demands of commercial establishments when quick delivery can be made from a central point, thus the lowering of requirements in stocking at outlets of the companies.

These are but a few of the elements which point to further rapid development of air cargo traffic. There are many, many more.

GUY M. SPRINGER, JR.
*Director of Air Cargo
Capital Airlines-PCA*

IT is not necessary to gaze into the crystal ball of the future to foresee the day when air cargo revenues will approach, if not surpass, air passenger revenues of today.

But much remains to be accomplished before air cargo outgrows its present day "big brother."

We have a tremendous selling job to do with those who would use our service. We must sell them on streamlining their operations to keep pace with the speed of air transport. Users already are "sold" on the advantages of shipping rush repair parts and highly valued items that require specialized handling via air freight. We

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It's no secret that many firms are faced with complex
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Manhattan's 63 years of **experience** in packing and
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currently are handling a large volume of traffic in items urgently needed to keep production lines rolling in emergency situations. However welcome, this type of traffic is not what we are pointing toward. We must build up a steady volume of consistent hauls if we are to get into the "big time."

Air cargo transportation offers boundless advantages to those who would use it: reduced inventories and stockpiles; quicker turnovers and lower investments; lower packaging costs; amazing speed; not to mention the future envisioned for shipping perishables by air.

Major obstacles beset our path. Lack of equipment, both ground and flying, hinders our advancement. Then we have a staggering selling job to put across the real economies of our service to those who would use it.

The road is before us and I am confident that air cargo will continue to pace increases in air transportation revenue until it becomes the "big brother" of passenger revenues.

JAMES A. WOOTEN

*General Manager
Contract Air Cargo Division
American Airlines*

THE Contract Air Cargo Division of American Airlines has now been in operation since July 1, 1946. Our responsibility, to prove or to disprove the potentialities of both domestic and foreign markets, using our available DC-4 aircraft, is a most interesting and enjoyable experience.

Three years ago there was laughter when we promised rates at 10 cents and 12 cents per ton-mile for plane-load quantities of 20,000 pounds. In July, 1945, when American Airlines was the first to offer rates of 10 cents and 12 cents per ton-mile, the operation was called a publicity stunt. But today AA is handling between 60,000

and 120,000 pounds of plane-load traffic per day.

At the Contract Air Cargo Division we sell only plane-load quantities, and regardless of the weight the shipper desires to ship, he either uses or pays for 20,000 pounds minimum. This experience is definitely proving to us that tremendous quantities of air cargo are available at compensatory rates, if the right kind of equipment is furnished and a reliable service is provided.

The DC-4 is the best airplane available today. It proved its worth in war time; it is proving its superiority every day! However, it must be remembered the DC-4 was designed as a passenger carrier, and not as an airfreighter.

Aircraft manufacturers are becoming actually cognizant of the future of cargo potentialities. The airfreighters of tomorrow must operate at a sufficiently low figure to tap the vast undeveloped potential market which is awaiting air transportation.



We can see in one commodity alone where five million pounds are available per week, and every week, if a gross rate of three cents per pound can be offered for a thousand-mile haul. Manufacturers tell us that ships will be built wherein such a rate will be feasible as well as compensatory to airline operators.

However, in the meantime, our job is to be actually proving the potential air freight business by developing new commodities for new markets, under new merchandising methods. We are doing this to establish the necessary confidence of those of importance in aviation, finance and the nation's business.

Within three years, and without waiting for new equipment, we at the Contract Air Cargo Division will probably be operating a minimum of 50 10-ton aircraft and transporting some 500,000 ton-miles of cargo a day.

Non-Scheduled Airlines

CHARLES A. CARROLL

*President
American Air Export-Import Co.*



WHILE the trend today is for more air cargo traffic (mail, express, freight) I fail to see where the revenues derived from such business will exceed that of passenger traffic for a number of years to come. Expansion in this field alone is not possible at the present time because the planes of today with their high operating costs, weight and lack of adequate space make it unprofitable.

With the coming of jet-propelled planes, I look for a larger volume of cargo business with an excellent future. Jet planes will carry greater payloads because they will be designed for greater utilization of space and will not have the weight of engines.

I see a long-range development project in which all mail, express and light cargo will be carried by air. Heavy items will, for the most part, continue to be transported by rail.

Before air cargo traffic can be developed to any great extent, it is imperative that freight rates be set up by and controlled by the authorities in Washington. These rates should govern non-scheduled as well as scheduled operations.

LEO J. DORNEY

*Executive Vice President
Pacific Overseas Airlines*

THE phenomenal coming-of-age of air cargo is nowhere more evident than in the Pacific, where our company pioneered commercial all-



cargo flights to the Orient less than six months ago. It is difficult to believe that until so recent a time passengers had had almost exclusive use of civilian transpacific air lift operations. If we do not consider the war, which in itself was a tremendous spur to air cargo, the answer to this neglect would lie in the absence until now of suitable transport aircraft.

Pacific Overseas' first month's operations showed nearly a 100 percent load factor. This extraordinarily high percentage has continued. The fact that POA's loads have more recently shown a trend toward increased proportion of passengers to cargo should not be interpreted as indicating absence of cargo to move. In rehabilitation of war-torn nations, planners and builders must move first. A year's backlog of cargo awaits the transpacific air carrier.

Our experience indicated that, in terms of transpacific operations, at least, air cargo can equal air passenger business in volume or revenue at will. How much it can surpass the latter will depend on how quickly larger and more economical air transport aircraft suitable for air cargo appear on the scene.

JOHN K. HUGHES
President
Air Freight, Inc.

IT is a self-evident fact that air transportation, particularly of bulk cargo, has so far exceeded wartime production that any estimate of further potential is almost impossible. It is our opinion, however, that within months, as mass production is again achieved in American industry, that all the carriers of air freight will find their equipment inadequate. The surface has not been scratched. The industry is not in its infancy; in fact, it is hardly an embryo. Hundreds of thousands of ton-

miles per day will be flown on a non-scheduled basis. This will be of the high cost per pound variety of commodity, and will supplement the dead-weight carriage of cargo by surface and water transportation domestically and overseas.



Speaking for Air Freight, Inc., the foreign carriage of freight is increasing so rapidly after a lackadaisical Summer punctuated by strikes and walk-outs in the shipping industry that neither adequate personnel nor equipment can be obtained to handle the greater tonnage. The foreign carriage of our cargoes has so far exceeded predictions that any estimate of future potential would be impossible. The fact, however, that this growth has taken place during a most difficult period in industry leads us to believe that as production swings into high speed, the air freight industry will go through a period of mushroom-like growth far exceeding even the rapid expansion of the last few months.

BERNARD C. McMAHON, JR.
Vice President-Sales
Flamingo Air Service



TRYING to forecast the future of freight by air is as hard, if not harder, than trying to buy a new automobile. The most important factor is the estimate of the potential market. This is the question mark. This market is growing by leaps and bounds, as shippers become more familiar with the wide-range, flexible transportation medium that is at their beck and call today.

On the basis of 20 cents per-ton mile a volume of 60 million ton-miles of traffic a year is available for haulage by air; at 10 cents per ton-mile, it should increase to 300 million ton-miles per year; at a six-cent rate, it should jump to two billion ton-miles. These figures do not take into consideration the increased air mail tonnage potential at the new five-cent rate. Railway Express in 1945 hauled approximately 2¾ billion ton-miles of freight.

It would take between 400 and 500 C-54s to handle this potential. This is more than the combined operation today of commercial equipment used in passenger transportation.

This volume is only a small portion of the total freight hauled by train and truck. However, its volume is plenty to build a thriving, healthy air cargo system, that will not only equal but outstrip the present and future potential of air travel. Air cargo is here to stay.

H. ROY PENZELL
President
Air Cargo Transport Corp.



WHEN I was a youngster we used to count freight cars for amusement. The hobby of tomorrow's kids will be counting freight planes instead.

Just as boxcars have always brought in far more revenue than passenger coaches, it is clear that the mainstay of

future aviation is going to be cargo, not passengers. A mere glance at the fantastic rise of air cargo in this past year alone illustrates the barely scratched possibilities of this budding gargantua—from 22,000,000 ton-miles in 1945 to 145,000,000 in 1946, according to a recent magazine survey.

With today's demand for fast, safe transit of all consumer goods and with tomorrow's new equipment designed expressly for air cargo, flying freight tonnage will be measured not in millions but billions.

ROBERT PRESCOTT
President
Flying Tiger Line

IT is difficult to remember that there actually was a time when the majority of people were in doubt about the future of the horseless carriage. But when companies like Ford and General Motors began to turn out their products by the hundreds of thousands—and later by the millions—



it was pretty well conceded that the automobile was here to stay.

In the late 1920s when the airplane was beginning to make its presence known, a lot of people felt the same way about aircraft as they had about the automobile. Today, the airplane is accepted as a vital part of business and industry.

Before World War II, anyone who thought in terms of flying cargo by air was considered slightly out of his mind. It took a global war to prove the feasibility of hauling thousands of tons of vital material and supplies by air to all parts of the globe.

Today the air freight industry is still in its infancy. But it is making giant strides and rapid progress. Already manufacturers, retailers and consumers are quick to grasp the advantages of this new industry—the advantages of greater speed, the ability to reach dis-

tant markets in a fraction of the usual shipping time, and the unlimited marketability of highly perishable goods that formerly were confined to local markets.

Within the next five years the carriage of freight by air should reach tremendous volume—running into millions of tons—and it is no stretch of the imagination to predict that it will make as great progress as did the automobile and the transportation of passengers by air. Time will prove that the air freight industry is here to stay.

J. E. ROGERS
President
Air-Borne Cargo Lines



AIR freight requires concentrated and intelligent salesmanship. The American business man is shrewd and must be definitely shown the advantages of this new means of transportation. In selling air freight, its limitations must be considered and a very definite job of constructive work must be done. Our company is working on the basis that any article having the basic value of \$5.00 a pound should and can economically be moved by air freight.

At present, working as a charter non-scheduled operation, it is very difficult to handle small lots of 2,000 pounds to 3,000 pounds where the ton-mile rate is high and it has been necessary to concentrate on the larger shipments of 5,000 pounds or more. This also has been the biggest hurdle in the "back-haul."

When a frequent schedule can be offered and the smaller shipments handled there will necessarily be an increase in revenue per plane-mile and also in the amounts shipped. On this basis, air freight will grow and become one of the main means of transportation.

EARL F. SLICK
President
Slick Airways



IT is my opinion, based on the experience of Slick Airways since it started operations last March, that air freight is a public necessity and that its continued growth and expansion is certain. Its potentials are unlimited.

Beginning with 61,247 revenue ton-miles hauled in March, our company has flown an increasing volume of tonnage each month with August showing 1,474,691 for an overall total of 4,025,243 ton-miles. These figures are proof that air freight is rapidly taking its place as a new, fast link in America's great transportation system.

Air freight offers shippers, growers and manufacturers boundless opportunities for expanding markets, reducing inventories and providing consumers with better products. The bulk of commodities shipped by Slick Airways has consisted of department store merchandise, fruits and vegetables, cut flowers, periodicals, and seafoods.

We of Slick Airways have witnessed the benefits shippers have derived from our contract air freight service, which in a sense is limited. In order properly to expand that service, we have applied to the Civil Aeronautics Board for certification as a common carrier so that we might provide a full, broad and sound service for all shippers.

HARVEY G. STEVENSON
President
Veterans' Air Express

IT is my opinion that the volume of air cargo transportation will increase tremendously during the next few years. The potentials in this field of commerce are becoming more evident with each passing day. I predict that gross revenues will eventually greatly exceed those of passenger transportation.

It is much more difficult to predict the time when air cargo transportation



tenance. These problems are in process of being solved by an industry-wide cooperation in the building of the facilities and the business that concerns everyone engaged within it. Business rivals are learning the value of coordinated efforts.

CHARLES F. WILLIS, JR.

*President
Willis Air Service*

IT IS the firm belief of our company and of the air freight industry as a whole that the air freight potential and air freight revenues will equal, if not exceed, the passenger revenues in a short period of time. The length of this time will depend upon the ability of the United States aircraft manufacturers to produce a plane along the lines of the Martin 202 or Fairchild Packet, i.e., low operating cost, ease of freight handling, etc.

Air freight rates are now approaching rail express rates on certain commodities in many cases. When bulk freight can be carried at today's rail express rates and a profit realized by the operator, the potential will be enormous. Thousands of shippers are today realizing for the first time the large savings they can make for themselves by using air freight versus other methods of freight transportation.

will reach its full growth. There is no doubt that it is still in swaddling clothes.

Packaging, which will carry sun-ripened fruits and vegetables into a market with economy and which will display as well the extra quality of the commodity, is still in process of development. Marketing techniques are still being tested in the laboratory stage of development.

Some of the problems to be solved, in order to hasten the day of stable air cargo transportation, concern return loads, economical operations and main-



One of the largest retail merchants in the country today has proved that on transcontinental air movements of high-style merchandise he can save \$6.00 per cwt., shipping dresses, etc., on hangers, thereby eliminating the packaging, handling, and other costs which are part and parcel of other methods of transportation.

By becoming specialists in the transportation of freight, methods can be evolved, costs cut, and savings given to the shipper which can be reflected in the retail price of commodities carried by air, thereby opening up the great potential for air freight.



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That Airport At Millville



MILLVILLE AIRPORT—Aerial view of the big airport operated by Tri-City Aviation Service, Inc., in the "Hub of South Jersey."

ONE HUNDRED AND NINETYSIX years ago Millville, New Jersey, went through the pangs of birth when a little wooden structure was built along the Maurice River. The span of time has brought it industries and the title, "Hub of South Jersey," but now the city suddenly has found itself propelled into the Air Age with a first-rate opportunity of making itself felt in commercial aviation.

Credit this to several alert young men with progressive ideas and the vision of the city fathers.

But let's go back to 1940 when the Government decided to spend some money on an airport in the county. All the necessary information was gathered and flown to Washington just in time to meet the deadline.

The CAA got down to the business of building the airport at Millville on the basis of 4,000-foot runways, but along came Pearl Harbor and an extra 1,000 feet were tacked onto each runway. Two months after "the day that will live in infamy" the Army took over the airport as a P-47 fighter base. So fast was the occupation that not even the city officials knew about it until they were confronted by machine guns at the entrance. A Jersey blitzkrieg, no less.

Just about a year ago the city went after the United States Government to ferret out the procedures for reacquiring an airport. A month afterward a small knot of young men representing the newly formed Tri-City Aviation Ser-

vice, Inc., laid down an attractive proposition for the operation of the airport. The ball was now rolling. In May an interim permit for commercial operation of the fighter base was won by the city, and on the 17th of that month a lease was signed by Millville and Tri-City. The Army moved out its last man in September.

Millville Airport covers 847 acres with 500 acres adjacent to the field for expansion purposes. There are four 5,000-foot runways with a 4,000-foot emergency steel mat, control tower, night illumination, two large and one small hangar, and a number of build-

ings for administrative, office, and warehouse space. The airport is within the city limits, and—an important note—no obstructions.

Tri-City, which selected Millville after an extensive survey covering the East Coast, has organized the airport along the lines of a production line maintenance base. It has been hard at work developing the field. Air-Borne Cargo Lines recently moved its entire set-up from Baltimore to Millville lock, stock and barrel. It is reported that the Commander Line, Winged Cargo, and Veterans Air Express have shown interest in the field as a maintenance base. Air France is interested in it, not only as a maintenance base, but as an alternate field as well. A trucking company is now located at the airport to provide speedy coordination of transportation service.

Among other things, Tri-City has organized the Cumberland Flying Club with an instruction set-up for student pilots. There had been a flying club prior to Pearl Harbor, but that went out with the beginning of the war.

Heading Tri-City is B. V. Golenkow, who, together with Edward C. Bigelow, vice president, were representatives of the Republic Aviation Corporation at Abadad, Iran. Walter Bigelow, who also holds the title of vice president, is a maintenance specialist; and John Sinayi, secretary-treasurer, was an Air Transport Command pilot during the war.

Into the Millville picture has come the Airwork Corporation, an outfit organized to overhaul aircraft engines, accessories, and instruments. Airwork's prospectus gives a clear explanation of its operating policy:

"The company will solicit business on the 1830 Pratt & Whitney engine from non-scheduled airlines, small scheduled



When 90,000 pounds of freight take to the air, it's no small-fry operation—but here's Air-Borne Cargo Lines' fleet of Skytrains after a smooth landing at Millville, New Jersey, with just this amount aboard. Taking off at the Baltimore Municipal Airport, with the first section of the airline's own maintenance shop and operations setup tucked away neatly in the cargoplanes, the fleet of ABC craft made a swift, easy transfer to the former Army Air Force fighter base at Millville. The flight was directed by Colonel John N. Stone, former staff member for General Henry H. Arnold, now ABC's chief of operations. The pilots—all ex-ATC men—included Edwin L. Roman, Edward Hanlon, Victor Conary, Raymond Nichols, Frank P. Butorac, and Joseph E. Eken. ABC now has complete hangar facilities at Millville, and has taken over a major portion of the shop buildings and office space previously used by the AAF.

airlines, and private company executive planes. Other sources of business can be modification or modernization projects for airline or engine manufacturing. . . . The company is interested in long-term development, and therefore definitely does not plan to take advantage of the current shortage of overhaul facilities and charge a high price for work."

At the helm of Airwork is Francis L. Hine, president and treasurer, who has an eight-year background with International Business Machines. During the war he served as a lieutenant colonel attached to the Army Quartermaster Corps.

J. V. Thompson, vice president and general manager, is a Yale graduate who was connected with Republic Avia-



B. V. Golenkow

F. L. Hine



BIG FIVE—Air-minded officials of the City of Millville who see their city's future linked to air transportation. Left to right are Commissioners William L. Ewan and R. S. Carew, Mayor C. H. Reeves, Commissioners Augustus M. La Dow and Lewis R. Hogan.

tion for a number of years before entering the Army Air Corps. He retired with the rank of major.

Shop superintendent is George Myers, a chap with two decades' experience in the engine overhaul shop at the Middletown (Pennsylvania) Army Air Depot.

During the war he served as assistant superintendent of this shop which employed 4,000 employees and overhauled up to 1,200 engines a month.

There's plenty of zip, punch, and know-how at Millville Airport. The activities there bear watching.

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Latin America . . .

FOCAL POINT OF TRADE

The other Americas have seven billion dollars to spend, with five of these seven billions in gold and assets in the United States. But European competition is moving into the picture and a battle for trade is in the offing. Here's how air transportation fits into the scene.

THE United States is beginning a battle this year for trade amounting to at least \$5,000,000,000 annually in what is the only open market in the world today . . . Latin America.

European competition already has moved aggressively into this market and victory for the United States will depend on how well competition is met. Success will depend on such factors as cooperation between the United States Government and business, astute diplomacy, the organization of United States business to sell to the Latin American market, and on a fast efficient transportation system.

Such a transportation system is in the progress of being created by Pan American World Airways. The initial step toward the accomplishment of such a program is the activation of a 38-hour through service between New York and Buenos Aires. The complete program proposes:

1. To provide a multiple daily "aerial commuter service" to all Latin American capitals.

2. To carry 2,000,000 passengers annually.

3. To move by air 30,000,000 pounds of freight annually.

4. To bring all of Latin America closer to the United States than to Europe.

5. To link all Latin American markets with United States industrial centers—*direct*.

6. To reduce travel, shipping and air-mail rates to "domestic" levels.

One of the significances of this program will be that for the first time in history mass transportation will be possible between two continents. It will create a system over which not thousands, but millions of people yearly will be able to move between the United States and the Latin American countries and colonies, providing the base on which the great trade volume will be built.

To carry the estimated load of 2,000,000 passengers and 30,000,000 pounds of freight annually between the northern and southern halves of the Western

Hemisphere a fleet of more than 200 aircraft capable of carrying more people at higher speeds than has ever been done before by any transportation system is being built up. Most important to the fleet will be a huge group of 49 Douglas DC-4s. These planes, each able to carry more than 40 passengers non-stop for over 2,000 miles, will fly at 220 miles per hour, the previous average speed on the route being 155 miles per hour. The extra speed means that planes will fly an additional 1,000 miles every 12 hours, the distance from New York to Florida.

Common Front

Beyond the economic picture, this system will serve as a life belt for the Western Hemisphere tying together the nations of the New World in a solid group with a common face to the world and uniting the many thousands of miles of coastline as a common front against any possible aggressor. Fast transportation is the spearhead in the battle for Latin American trade. It is the tool by means of which United States business men can gain the huge volume of trade that Latin America will do with the world.

Now Latin America is open to the world. Already European business men have moved into the south. A significant point is that European nations are sacrificing many machine materials important to their own reconstruction and delivering them in less time and under United States prices in order to win Latin American trade, Latin America now being the only free trading area in the world.

At present the United States Department of Commerce estimates Latin America has better than seven billions of dollars to spend. Export-Import Bank figures show that Latin America has \$5,000,000,000 in gold and assets in the United States alone. This figure does not include holdings in United States securities. Exports to Latin America in 1938 amounted to \$481,000,000. In 1945 these had risen to \$1,170,000,000. Prices on products have



BEFORE BOARDING—Passengers break into little knots of conversation just before boarding a Pan American DC-4 bound for South America.

risen rapidly this year. More products have become available. Our imports from Latin America have always equalled or surpassed our exports. Therefore it is estimated that this year our trade with Latin America will be better than \$3,000,000,000, provided none of it is taken from us by European competitors and that we are able to provide transport for merchandise and business men. By 1948 that trade should be at the \$5,000,000,000 mark.

During the war United States loans have held the fort in Latin America for the American business man. Export-Import Bank loans authorized for Latin America totaled \$945,897,000 early this year. Private capital has well over four billions invested.

As to the extent of active foreign competition, Soviet Russia has just concluded a trade agreement with Argentina. Their trade representatives are already in other Latin American countries. Franco Spain is exchanging goods with Brazil, Argentina, Chile and Peru. Great Britain is shipping steadily to Argentina, Brazil, and the smaller nations and has just concluded a 10-year air agreement with Argentina for landing rights. Such an agreement is already in force with Brazil. Air France, the national French airline will fly the Atlantic to South America and will

have lines running from Brazil south and north to Chile on the west coast. The Dutch are operating not only to Dutch Guiana but all across the northern part of South America. The British and the Russians are especially active in Mexico. A French construction company is building harbors in Brazil. Among others reaching out for Latin American trade are Italy and Portugal, as well as every other nation that has something to sell and needs South American goods or raw materials.

Meanwhile 40 percent of the United States' imported raw materials come from Latin America.

Travel Advantage

North American business men as a result of the expansion program will have a travel advantage over a European competitor of about two days on a round trip between their respective countries over the new routes. The American business man will have an equally great advantage in the shipping of goods over his European rivals. The New York-Brazil route will become especially important to the business man when, and if, this interamerican system is granted domestic routes tying in the entire nation with the high-speed trade routes heading southward.

At present British Overseas Airways Corporation flies from London to Rio de Janeiro in 44 hours. *Clippers* fly it from New York in 28 hours — 16 hours faster. From Paris BOAC takes 42 hours. The *Clippers* have an advantage of 14 hours. The Dutch fly from Amsterdam to Paramaribo in 36 hours. The *Clippers* reach Belem, farther down the coast, from New York in 16 less. An Englishman can get to Rio as fast by flying to New York and then Rio as he can by taking a BOAC plane via Africa.

In prewar days Latin Americans were Europe-minded, not so much because of their Latin background but because Europe was more easily available to South America. Much work has been done in creating hemispheric unity and good neighbor relations, but until the day when the main centers of their country's economy and culture were more easily reached than those of Europe, such labors were handicapped. This tremendous advance in transportation has brought that day to the present. Every country in Latin America is now closer to the United States in time than it is to Europe and with the tremendous advantage in seating capacity offered by the great expansion, accommodations will be plentiful for



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interchange of business representatives and for tourists.

The aim of this vast expansion program is to aid in developing the five billion-dollar trade volume between the Americas. This will be accomplished by:

1. Increasing purchasing power in Latin America with almost \$1,000,000,000 travel dollars.

2. Facilitating the industrialization of Latin America with United States heavy machinery to create local purchasing power.

3. Providing delivery speeds superior to Europe's for servicing trade and industry.

4. Extending to foreign trade the United States system of express merchandising.

5. Expanding a two-way road for trade and travel among all the American communities.

Travel Dollars

Volume of travel alone will create a tremendous trade with travel dollars. In 1938, United States citizens spent \$76,000,000 while traveling in Latin America. Prices have gone up since then sufficiently to raise that figure to over \$100,000,000 if the number of travelers remained the same. However, under the expansion the number of passengers will be up almost 1,000 percent making expenditures of travel dollars in the neighborhood of one billion. This vast sum in United States dollars spent annually in Latin America would result in a most favorable exchange since it is money in invisible exchange (that is, not spent for imported materials). In addition and most important to United States industry is that fact that the almost exclusive devotion of the sums spent to local sales and service will further tend to raise the scale of living. As the standard of living rises, so do the needs for the merchandise our businesses have for sale. Increased exports raise employment in the United States and increase the ability of firms to handle more trade.

The second point having to do with the industrialization of Latin America with United States heavy machinery has many of the same features as has the first point. By putting our heavy machinery at work in a Latin American country, we do two things. The industrialization of a nation also raises the standard of living of that country. With increased pay the native workers are able to buy better materials, household equipment and other materials and equipment which are built in this country. Further industrialization with our machinery. It spends money in this



IN ARGENTINA—A typical scene on the Pampas

country which it must regain through trade channels.

Greater cargo space, greater frequency of flights and higher speeds, will greatly benefit United States business. The program provides for an all-cargo daily service running from end-to-end of the hemisphere, more than doubling present service. These flights will be a guarantee to the business man that once he gets Latin American business he won't lose it. This service will permit servicing of machinery as rapidly as if it were in the next town. It will allow him to keep ahead of European competitors by more rapid delivery of ordered items and new merchandise. It will enable him to assure the Latin American that stock can always be kept at the proper level and that the latest in fashions, in improved equipment and in new-type merchandise will be on Latin American shelves as fast as it is in the United States.

Point number five will be the creation of a great community involving two continents and more than 30 nations and colonies. Prior to the war approximately 125,000 people traveled between the Port of New York and Latin America, exclusive of cruises. An additional

75,000 traveled to Latin America from Los Angeles, Miami and the border ports (not counting tourist trade of less than 48 hours). This is but a small fraction of the vast volume provided for in the expansion plan. This great throng will create an interchange of people not only between the two continents involved but between each of the various countries. Air travel first came to Latin America in the late 1920s. Even so it was not until the late 1930s that travel was possible between all of the capitals of the south, cut off as they were from each other by vast forests and towering mountain ranges. Therefore, mass travel between the Latin Americas will now become possible for the first time. As the interchange involves more and more peoples, common interests become the same and the aim of one country becomes the aim of all. Remember that the South American routes involved pass through 23 countries and colonies containing an area much larger than the United States.

As these objectives are achieved and as passenger and freight volumes reach planned goals, fares and rates will drop. Eventually they are expected to reach the domestic level.

Ray New Head Of Feederline Group

The Feeder Airlines Association has announced the election of James G. Ray, vice president of Southwest Airways, to the presidency of the association. Other elected officers are Robert M. Love, president of All American Aviation, vice president; Gilbert R. Cook, of West Coast Air Lines, secretary; Albert L. Zimmerly, president of Empire Air Lines, treasurer. Joseph J. Mitchener, Jr., is the FAA's executive director.

In a statement made shortly after his election, Ray said:

"We now need a service organization for certificated airlines and those who will shortly be certificated to act as a clearing house for the exchange of ideas among its

members. It is hoped that we may be able to effect through the association certain standards of operation and procedures and to perfect through collaboration necessary operational aids. The association should represent the short-haul transportation group in dealing with the various governmental and other agencies in matters of common interest and should, of course, be alert to all that transpires in Washington which may have a direct bearing on feederline operation."

Federal Selected

Federal Air Freight Company, 1151 South Broadway, Los Angeles, has been selected by United States Airlines as Los Angeles agents. Federal also acts as agents for the Flying Tiger Line.

Eastern Organizes An Advisory Board

In a move to provide Eastern Air Lines with "streamlined management" in its operations, an Advisory Board of Directors and a Field Board of Directors have been organized. These will function with the officers and directors as a part of management. The boards will meet monthly.

British Purchase 6 Stratocruisers

With the purchase of six Boeing Stratocruisers by the British Overseas Airways Corporation, total sales of this double-deck transport have reached 55, aggregate cost of which has passed the \$75,000,000 mark.

Questionnaires Sent to Foreign Freight Forwarders by the IATA

The Conference Agency Working Committee of the International Air Transport Association is distributing a large number of questionnaires among foreign freight forwarders for determination, by the committee, of those eligible to receive IATA agency certificates. Twenty questions are asked, and these follow in full:

1. What is your principal business?
2. Under what name or names does your business operate?
3. What is the full address? (Give city zone number, if any.)
4. How long has your present firm been established? How long have you sold air transportation?
5. Name(s) of manager(s).
6. Give name of owner and to what extent he actively participates in the operation of the air freight and the air freight-express department of your business.
7. Give length of time present proprietor has owned the agency.
8. Is the firm a corporation, a private or limited company, an association, a partnership or an individual?
9. If other than individual, give names and titles of the principal officers or partners.
10. What is the experience of key members of your staff in the sale of transportation, and how long have they been in this business?
11. If your business is not exclusively for the sale of transportation, do you have a staff and space assigned for the sale of transportation exclusively?
12. Is any proportion of that staff and space reserved exclusively for the sale of air transportation?
13. What sub-offices, locations, subsidiary concerns and/or undertakings do you wish to be included in the agency? Give full title, address and degree of association, in respect of each.
14. Describe each location from the standpoint of display facilities and accessibility by the public, stating specifically whether it is a ground-floor location.
15. Are you an official agent of any other carrier, air, rail, sea or surface transport? If so, give full details.
16. Have you been approved as an agent by any transportation conference? If so, give full details.
17. What is the estimated value of your monthly air freight and air freight-express transportation sales?
18. It is a condition of any agency granted that the agent shall be bonded, or shall furnish a satisfactory guarantee in lieu, at his own expense in respect of his estimated monthly turnover. Are you prepared to accept this condition?
19. What reasons can you furnish reasonably to substantiate that a mutually productive agency will materialize?
20. If your present address is a temporary location, indicate, as nearly possible, when and where your permanent office will be established.



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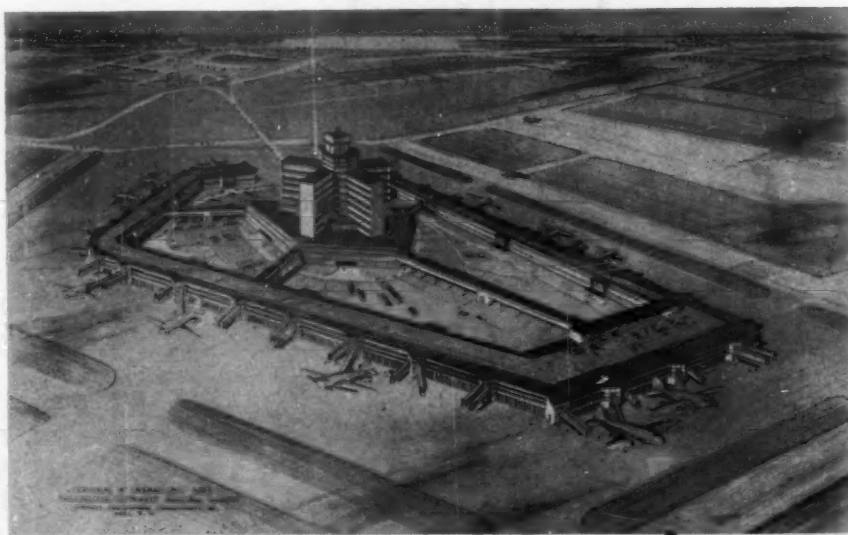
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SABENA AT LaGUARDIA FIELD



Arriving at New York after the first chartered flight from Belgium in a Sabena DC-4 were (left to right) Guy Daufresne, Belgian vice consul; Colonel Comte de Borchgrave, of the Belgian Embassy; Charles Fonck, member of the Belgian United Nations delegation; Brigadier General Gerald J. Higgins, commandant of cadets at West Point, and formerly Chief of Staff of the 101st Airborne Division at Bastogne; Lieutenant Colonel B. E. M. Defraiteur, Belgian Minister of National Defense; Mr. and Mrs. Paul Van Zeeland, former Prime Minister of Belgium and president of the Belgo-American Association; Group Captain Leo Desomer, Belgian Air Force; Lieutenant Virgil Smith, United States Army; and Jacques Lagrange. An urn of earth from the historic battlefield where General McAuliffe uttered his famous "Nuts!" to the Nazis, was aboard the plane.

PHILADELPHIA INTERNATIONAL AIRPORT



Artist's conception of the Philadelphia International Airport on which construction begins this Fall. Operations capacity of the new airport will be about six times the present capacity of the Washington National Airport. Four sets of parallel runways with a terminal area consisting of three basic units are included in the plan. These units consist of a large international building flanked on each side by the domestic operations building, and a central terminal building connected to the latter structure by covered overhead walks. The central terminal building will contain hotel rooms, restaurants, motion picture theater, and a garage. Airways Engineering Consultants, Inc., Washington, D. C., prepared the master plans and architectural design, and will construct all buildings and facilities.

Bob Prescott With Chennault in China

Accompanied by Robert Prescott, former Flying Tiger, now president of both the National Skyway Freight Corporation and the Independent Airfreight Association, Major General Claire L. Chennault is in China to set up a \$3,000,000 airline. The reported purpose is the flying of relief supplies from coastal points to stricken areas in the interior of the vast country. Chennault, who was commander of the famous Flying Tigers and the 14th Air Force, is retired from the AAF.

It is understood that bases of the new airline will be established at Shanghai and Canton, with intermediate fields formerly used by the 14th Air Force. At the present time Chennault is contacting some of his old flyers and offering them pilot jobs at reportedly good salaries.

Should Prescott enter into a definite deal with Chennault, the net result for his line would be an extension of NSFC's non-scheduled air cargo service to points across the Pacific—something badly needed these days.

Air Express Rates for EAL's N.Y.-Miami-San Juan Service

Additional air express service between United States cities and San Juan, Puerto Rico via Miami has been made available to shippers. The new schedule, operated by Eastern Air Lines between Miami and the Puerto Rican capital, provides for one round trip daily, with DC-4 equipment. Air express may be forwarded either prepaid or collect, with the exception of perishables and live stock shipments, which must be prepaid. Rates between New York-Newark and San Juan are 47 cents per pound; between Miami and San Juan, 36 cents per pound.

FRENCH AIR FREIGHT



AIR FRANCE will inaugurate freight and express service between New York and points on its worldwide network, it was announced by Pierre Rousselle, commercial manager for North America. The French airline now serves 51 countries on five continents. Rousselle expressed himself as confident that the opening of the Atlantic air freight link will greatly stimulate the import and export trade. The above picture shows an Air France DC-3 transport in continental service being unloaded at the airport in Paris. DC-4s are used in transatlantic flights.

Two-Engine Helicopter Made for Navy by McDonnell



TEST FLIGHT—XHJD-1 Helicopter during one of its flights at the Lambert-St. Louis Municipal Airport.

A significant step forward in the rotary wing aircraft field was made several weeks ago with the bowing in of the Navy's XHJD-1, first twin-engine helicopter yet produced. Designed by C. L. Zakhartchenko, chief engineer of the helicopter division of McDonnell Aircraft Corporation, who collaborated with the Navy Bureau of Aeronautics, the XHJD-1 recently completed successful tests at the Lambert-St. Louis Municipal Airport.

Two 450 horsepower Pratt and Whitney Wasp Jr. engines power the craft's two lifting rotors which are arranged side by side.

The 40-foot blade rotors turn in opposite directions. At this writing it was reported that future test flights would be made with 46-foot rotors, with the overall span increased from 81 feet to 87 feet.

According to McDonnell, the use of the twin engines gives the craft "greater reliability for safety over rough terrain, populated areas, or water." It cruises at more than 100 miles per hour with a useful load exceeding 3,000 pounds. The XHJD-1 can fly on either of the two engines, since either one is able to drive both rotors through a system of overrunning clutches.

Firestone's Model 45 Is Commercial Twin of XR-9B

G and A Aircraft, subsidiary of the Firestone Tire and Rubber Company, has come through with its Model 45 helicopter, commercial version of the Army Air Force's XR-9B. Test flights with this two-place model will influence the design of a four-place family-type helicopter sedan now being developed.

The craft is powered by a small 125 horsepower four-cylinder engine. It has a




30-foot diameter three-blade main rotor and a small anti-torque tail rotor. Overall height is eight feet-one inch, and length 25 feet-five inches. It is equipped with dual controls and side-by-side seating arrangements in a spacious lucite-enclosed cabin which provides a 270-degree range of vision.

Weighing less than half as much as a low-priced automobile, the Model 35 is free from jolting vibration, can be flown hands-off controls, and "holds the road" exceptionally well because of its excellent stability characteristics.

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New Orleans - MIAMI	- 9.78 CWT.

London-New York Runs By BOAC Now Four Each Way

British Overseas Airways planes are now flying the London-New York route four round trips each week. One flight in each direction weekly is routed via Prestwick, Scotland, instead of Rineanna, Eire.

The increased frequencies make available approximately 80 additional seats Eastbound and 60 Westbound. In order to accommodate passengers when last-minute space becomes available as the result of changed plans of those holding reservations, BOAC has made special arrangements to accept reservations 24 hours before flight time, and also to accept ship-side bookings of those who are willing to take a chance that there may be last minute "no-shows." Such passengers will be required to be in possession of all necessary Government documents, such as passports and visas for the countries they intend to visit.

Dayton Firm Boosting Airborne Perishables

With emphasis on the marketing of airborne perishables, the Airborne Commodities Sales Company, headed by H. K. Crowl, former member of General Henry H. Arnold's staff is developing a streamlined organization. The firm makes its headquarters in the Refiners Building, Dayton, Ohio.

Airborne Commodities operates along the following lines: representation for shippers whose perishables will be flown to large outlets; coordination of shipments

into full paneloads to take advantage of low contract air freight rates; establishment of distribution points at Dayton, Columbus, Cincinnati, and Indianapolis, with facilities for dockage, temporary storage and pick-up when volume will warrant it, working within a 40-mile radius of each airport; creating a demand for airborne perishables through a "Buy Airborne" sales promotion program.

The firm received its first contact with the Ralph E. Myers Company, of Salinas, California, last April. Since that time contracts have been arranged with other Pacific Coast growers of produce and flowers. Shipments are moving into the Midwest area at the rate of 12 cents per ton-mile, according to a report from the company.

Examiner's Report on New Route is Hit by Braniff

In a brief filed by Braniff Airways with the Civil Aeronautics Board, strong exception is taken to the examiner's report denying the airline's application for a route between the Southwest and Eastern industrial centers.

The proposed route would extend Braniff's present services in Texas and Oklahoma to New York via Tulsa, Oklahoma; Springfield and St. Louis, Missouri; Evansville, Indiana; Louisville, Kentucky; Cincinnati and Columbus, Ohio; and Pittsburgh and Philadelphia, Pennsylvania; and Newark, New Jersey. The route is identical to one suggested independently to the CAB by the Port of New York Authority.

In a united effort to expedite this new air service, cities which intervened originally in behalf of this application have

notified the airline that they have also filed exceptions protesting the adverse report. Braniff stated that competitive air service has been provided between the East and all other areas in the country except the Southwest. The airline also took exception to 1933 figures used in the report, pointing out that the Southwest's permanent industrial growth in the past 13 years justifies additional transportation to the nation's industrial centers. It challenged the estimated diversion of traffic from existing services, claiming that such diversion would be minor in comparison to the public benefit derived from an alternate routing.

Sea-Air Petition Before CAB Again

The Sea-Air Committee, representing nine passenger steamship lines, has presented to the Civil Aeronautics Board a petition for a reappraisal and review of the CAB's policy which forbids American steamship companies from operating transoceanic air services. Chairman William W. Smith of the Maritime Commission is supporting the steamship companies. General counsel for the Sea-Air Committee is Robert E. Kline, Jr. Stuart G. Tipton, general counsel for the ATA, argued against granting the petition.

IATA Studies Costs

A new sub-committee of the International Air Transport Association Traffic Committee has been formed to analyze actual costs as a basis for future fare agreements. The committee is seeking to standardize traffic practices everywhere.

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On the NON-SCHEDULED FRONT

"PROPERTY" may look like an innocent word, but it has been picked up by H. Struve Hensel, counsel for the Independent Airfreight Association (Slick Airways, Flying Tiger Line, U. S. Airlines, Commander Line, and Flamingo Air Service), who is seeking the interpretation of the word at the time certificates were granted to the major airlines to engage in the carriage of "passengers, mail, and property."

The question was raised in a petition filed last month by IAA. Intervention is sought in hearings before the Civil Aeronautics Board on applications for certificates by contract airlines. Said Hensel:

"The association desires to present argument with respect to the extent to which certificates previously granted for the carriage of 'property' at a time when the present carriage of bulk air freight was not contemplated should be interpreted to cover bulk freight."

IAA would like answers from the CAB to these questions:

1. To what extent and manner will competitive influences be permitted "free play"?
2. What will be the "character of regulation by the Board and other governmental agencies," and will they assure "healthy competition"?
3. If certificates are granted, will they be of a permanent or temporary character?

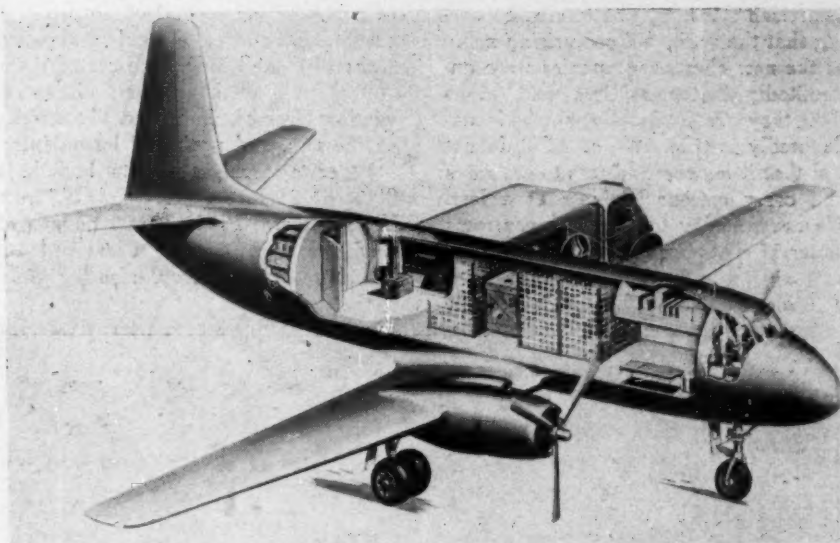
Predating the IAA petition, H. Roy Penzell, president of the Air Cargo Transport Corporation, struck out for fair Government regulations which would control the rate war raging among air cargo carriers. He questioned the statement of Bob Prescott, president of both the IAA and the Flying Tiger Line, that rate-cutting was good for the air cargo business.

"It was the Air Cargo Transport Corporation," he said, "which first lowered the rates from 30 and 40 cents a ton-mile to 20 cents a ton-mile, and at the same time consolidated the multiple rate classification into one. At this figure, with the equipment which is utilized today by most of the carriers, the C-47 or C-54, an air cargo company operating 10 planes would show a profit with a daily utilization of between 4½ and five hours. The utilization of planes on scheduled passenger lines runs much higher, in fact, on an average of 12 hours per assigned aircraft. How-

ever, in order to build up the utilization of charter carriers to a reasonable figure, we must eliminate all deadheading and unnecessary waste of time at terminals.

"The direct operating cost of a C-47, the most economical cargo plane in use today in view of the present stage of the industry, where a certain amount of deadheading is still necessary and full payloads are not always available, is \$54 an hour or 12 cents per ton-mile. When you add to this the indirect cost of from 4½ to six cents for sales, traffic, advertising, promotion and other

MARTIN 202 CARGO VERSION



Cutaway drawing of the Martin 202 cargo transport, twin-engine craft which will have a payload of 12,885 pounds and a claimed operating cost as low as six cents a ton-mile. Built by the Glenn L. Martin Company, the 202 will be produced in two versions—one for short-haul and the other for long-haul. The short-haul version will have a gross take-off weight of 38,000 pounds, and a top range of 1,010 miles; its long-haul sister's gross take-off weight will be 41,000 pounds, and the operational range, at 70 per cent power at 10,000 feet, 1,605 miles. Payload of both versions is the same. A large side cargo door measures 96 inches wide and 72 inches wide. The individual needs of the air cargo operator are the final word in the interior arrangements.

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executive expenses, it makes a total cost of 16½ cents per ton-mile.

"When we established the 20-cent per ton-mile rate, we took air cargo out of the luxury class for shippers. About that time I predicted an 11-cent a ton-mile rate, when cargo planes at a lower operating cost are available, and there is a sufficient volume of business to justify their purchase.

"ACT, the oldest of the charter cargo carriers, has made application to the Civil Aeronautics Board for a franchise which would permit them to fly certain specified routes. However, unlike the members of the Independent Airfreight Association, they will not wait to receive such a certificate before purchasing improved equipment. If improved equipment is available, and the volume of business justifies its use, ACT will need no other green light.

"Some time ago C. R. Smith, of American Airlines, was quoted as saying that the personnel comprising many of the new charter companies were undoubtedly better soldiers and pilots than they are business men. This undoubtedly is true. We of ACT do not feel that it is good business to cut rates and carry on our business at a loss. We are refusing to take any contracts under 17 cents per ton-mile, and we are only able to offer this reduction from

our 20-cent rate because of increased payloads made available on C-47 cargo planes by CAA.

"We approach the air cargo industry strictly as truckers of the air. We feel that we can only advance the entire field of air transportation by doing our job in a way which will best further air cargo. Obviously we in turn will then profit."

Looking westward, we hear that Slick Airways, which set its first million revenue ton-mile in August (the exact figure was 1,474,691), is filing a registration statement with the Securities and Exchange Commission covering 62,500 shares of \$10 par common stock against stock options to be offered employees. Recently Earl Slick, president, made a gift of one share of stock each to 314 members of the company.

Slick also passes along this item of interest—a recent payload composed of a tractor, an embalmed corpse in a casket, hardware, several 100-pound sacks of tanned hides, five crated dogs, 700 pounds of binoculars, aluminum window frames, ladies' ready-to-wear, cut flowers, and packaged lemon juice.

Other air freight tidbits include a flight of 24 love seats via ACT, from Newark to St. Paul; 10,000 pounds of smoked meats from Cleveland to Teterboro, New Jersey, also by ACT

cargoplane; 36 pianos, weighing more than 14,000 pounds, flown in two U. S. Airlines planes, from Philadelphia to Miami and Oakland, California; 7,000 pounds of foundry coke, air-shipped via the Commander Line from Teterboro to Camaguey, Cuba. These are merely samples of what airfreighters are carrying these days.

The Commander Line recently added Caracas, Venezuela, to its present routes touching Bogota, Barranquilla, Mayaguez, San Juan, and other Latin American points. According to the company, five cargo flights a week are planned, using DC-3s and DC-4s on the runs.

From Transair, which makes its headquarters at 730 Fifth Avenue, New York, comes word that it has acquired Aero Industries Corporation, of New Haven, Connecticut. Merger of the flying equipment bring the total number of aircraft under Transair ownership to 33, which includes a DC-4, 10 DC-3s, one B-23, three *Electras*, one *Lodestar*, two twin-engined Cessnas, one Stinson, and 14 assorted training planes. Hangars, maintenance and conversion shops of Aero Industries are located at the New Haven Municipal Airport to where Transair will move its own maintenance plant from Newark Airport.

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J. P. McSHANE, General Manager

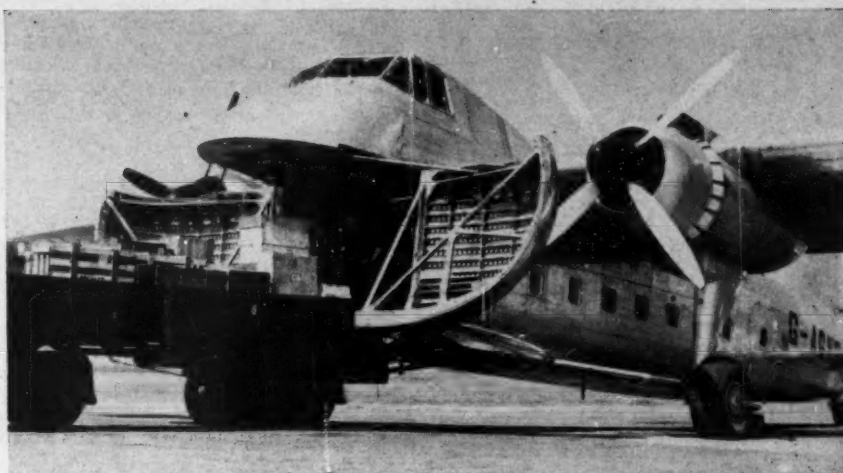
CAB Turns Down AA-MCA Merger

American Airlines has lost its plea to acquire control of Mid-Continent Airlines, according to a decision by the Civil Aeronautics Board which stated that it would be disadvantageous to merge AA's coast-to-coast system with the "uncomplementary" North-South routes of MCA.*

The CAB said that the proposed consolidation would be "inconsistent with the public interest and would impede the development of an air transportation system properly adapted to the country's needs." It pointed out that AA ranked sixth among air carriers connecting with MCA, and that merger of the airlines would establish services "for only an unimportant eight cities of the 80 chief points of traffic interest" on MCA routes. AA's argument that consolidation would result in lower fares was countered with the reply that MCA was in a position to obtain more equipment and probably would reduce tariffs in the future.

* See October, 1945 AIR TRANSPORTATION.

YAWNING FOR FREIGHT



Scenes such as the one above took place at numerous airports in North and South America following a transatlantic flight of this Bristol Freighter, cargo-carrying version of the Wayfarer. Payload is 4½ tons, with operating cost said to be 10 cents per pound per 1,000 miles. Bristol engineers say the Freighter is excellent for short-haul transport.

Air Cargo Inc. Reorganized as Scheduled Airlines Go All-Out for Air Freight Business

Air Cargo, Inc. has emerged as a service group rather than as one devoted to research. This is a direct result of the scheduled airlines' new-born awareness of the vast potentials in air freight and the strong foothold of the non-scheduled airlines in this business.

The scheduled airlines, through the Air

Transport Association, are now going into the air freight field in a big way; and will oppose certification of non-scheduled airlines. The new setup will work toward improvement of service between all points, airline as well as off-line; also offer a pool of joint facilities and services.

Notable changes are planned by Air

Cargo, Inc. These include full participation by all scheduled airlines; elimination of distinction between air express and air freight; cancellation of existing REA contracts; joint tariff; joint rates where justified; interline shipments; agreements with surface transportation companies for through service.

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TRANSAIR



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LEGAL NOTES

on Air Transportation

By GEORGE BOOCHEVER

Chairman of the Legal Committee and
General Counsel to the Aviation Sec-
tion, New York Board of Trade

ZONING ordinances to safeguard the operation of airports will become a matter of increasing concern with the growth of airport facilities. Hence the decision in the case of Yara Engineering Corp. vs. City of Newark, 1945, USAvR. 117, 132, N.J.L. 370, 40 A (2d) 559 throws an interesting light on the legality of such measures.

In 1944 the Board of Commissioners of the City of Newark, New Jersey, adopted an ordinance referred to as the "Airport Zoning Ordinance of the City of Newark."

The airport approach zones and airport turning zones provided for in the ordinance extend for two miles from the landing field which is called the Inner Boundary. No structure or trees were permitted by the ordinance to be erected or maintained within these zones in excess of certain heights ranging from 10 feet to 370 feet, the lower heights being in the zones nearest the Inner Boundary. Another provision of the Ordinance prohibits any use of land within a two-mile radius of the

landing field which would in any manner create electrical interference with radio communication between the airport and aircraft, or make it difficult for flyers to distinguish between airport lights and others, or make any glare in the eyes of flyers using the airport, or impair visibility in the vicinity of the airport, or otherwise endanger the landing, taking off or maneuvering of aircraft.

The Court said, p. 119:

"We find nothing in the statute (the enabling statute) which authorizes the enactment of an ordinance for the zoning of land solely for the use of an airport, as this ordinance undoubtedly is. We conclude that this ordinance undertakes to zone without authority of any statute and is in fact the taking of private property without due process of law, in violation of the Fourteenth Amendment of the United States Constitution, and also the taking for public use without just compensation, in violation of Art. 1, par. 16 of the State Constitution.

"The City is within its rights in acquiring property for airport purposes under the provisions of R.S. 40:8-1, and it may acquire private property for such purposes by condemnation if necessary under R.S. 40:8-5. To restrict the height or building of any structure or trees, or to interfere electrically with communication or impair visibility by lights, etc., or in any way to use property within two miles of an airport to endanger the landing or taking off, etc., of aircraft, as provided in the questioned ordinance, is an interference with the rights of private ownership, which is not within the contemplation of the zoning law. The City may not under the guise of an ordinance acquire rights in private property which it may only ac-

quire by purchase or by the exercise of its power of eminent domain."

The ordinance under review was ordered set aside.

New Finance Plan For Lightplane Purchasers

Private planes may be bought as easily as automobiles, according to an announcement by the Universal C.I.T. Credit Corporation, which has developed a program enabling buyers to purchase planes and insure them on the installment plan.

The interested pilot need only consult his plane dealer, who will arrange the insurance, the financing and the protective services offered by the plan in one interview in a single signature transaction. The buyer may finance the purchase of his plane for the same five percent carrying charge that applies to automobiles, and at low insurance rates. A new, completely insured plane priced, for example, at \$3,000 may be obtained for \$1,000 down and 24 monthly payments for the balance, including insurance.

The plan provides insurance against flight and ground risks, public liability risks and property damage risks. Provision is also made for a bail bond up to \$5,000 for the buyer arrested for violating aviation laws, or on charges resulting from accident arising from the use of his financed plane. In addition, the company's branch offices throughout the nation will accommodate customers anywhere within this country, so that a pilot forced down far from home, and with little or no money in his pocket, may assure repairs by communicating with the nearest Universal C.I.T. office. The cost of repairs is added to his account.

MAJOR DOCUMENTS - CHICAGO AVIATION CONFERENCE



PIN-POINTED CARGO



There's a good reason why the parachute will play an important part in the economy of Ecuador and Colombia.

By DANIEL H. ECKER, Executive Secretary
Aviation Section, New York Board of Trade

MUCH has been written regarding the dropping of cargo by parachute in the European, and, particularly, in the Chinese-Burma operations of the last war. Yet, with even the best known operations, there can always be some new techniques evolved.

Last July, such an opportunity was pursued in Ecuador and Colombia by General Textile Mills of New York, which conducted original experiments in air commerce, with the aid of Willis Air Service (The Commander Line). The operation was conducted in three phases under the direction of Fred W. Cole, export manager, and Lucius O. Rucker, operations consultant for the General Textile, assisted by the writer as coordinator. In each instance, General Textile's successful war-tried "baseball" parachutes were used to drop both animate and inanimate cargoes. This type of non-oscillating cargo parachute, constructed of muslin (designed by Leonard P. Frieder, president, and Walter P. Finken, chief engineer), and through its hemispherical canopy which affords equal distribution of air pressure at all points, permits the greatest use for precision drops.*

Operation I began in Ecuador, at Guayaquil, a few feet above sea-level and later at Quito, the capital, 8,500 feet high. Latin American Airways co-operated in these tests. Rarely had parachutes been tested at such altitudes; the established rate of descent, as applied to loads for precision drops, had to be revised. For instance, at

8,500 feet larger canopies had to be used for the loads so as to reduce too rapid a descent in the rarified air. These cargo drops, at Quito, were of the usual type of equipment—simulated loads and foodstuffs—and were conducted near a mining area.

Operation II was held in the most mountainous part of Colombia which affords ideal terrain for precision cargo drops, and where the idea is most appreciated. It was conducted at the Madrid Military Air Base, some 30 miles from Bogota, the capital of Colombia, at an elevation of 8,652 feet. Several size canopies were used to illustrate to officers of the Colombian Air Force the practical uses of precision parachutes during national disasters, or for war use.

'Chuted Dog

For the first time in Colombia's history a dog made a descent by 'chute, dropping without harm from a height of 200 feet. The animal, selected and supplied by the College of Veterinary Medicine, National University of Colombia, was a full-grown, black Belgian shepherd weighing 65 pounds, named El Gato. The purpose in dropping the dog was to illustrate again the use of animals for humane and war purposes, in addition to furnishing the faculty of Veterinary Medicine with hitherto unrecorded data concerning the effect of such descents upon an animal's respiration, muscles, and heart-beat. El Gato, living up to his misnomer, was not only a complete scientific success, but made a splendid Colombian K-9 air trooper. Then followed drops of replacement parts for military cars



K-9 PARATROOPER—El Gato, the Belgian shepherd dog, descending near some trees on one of his three parachute drops.

and trucks, tires, oil and gasoline in cans reinforced and cushioned by wooden containers, ordnance parts, medical and pharmaceutical supplies, and processed foodstuffs.

Operation III was divided into two parts—scientific and popular. The first was original in every aspect through the interest of the Faculties of Veterinary Medicine and Agriculture, with the cooperation of Dr. Victor Rodriguez Rosas, fellow of the National, Cornell and Pennsylvania Universities and veterinarian consultant to The Commander Line and the Department of Cattle, Ministry of Economy. Drops at 500 feet each were made at the Madrid Air Base, the cargo being a crated pair of grown rabbits, a crate of Leghorn chickens, a grown sheep, a cat, and several dozen fertilized chicken eggs. After each descent complete examination was made of all animate cargo. Perhaps the most interesting experiment was the illustration that bull semen, properly stripped and prepared for shipment, would make a likely "air candidate" for precision delivery in such a difficult mountainous terrain as inner Colombia presents.

The technical laboratories of the National University ably assisted all preparations for the descents. Rucker devised the necessary harnesses to be used, and the writer designed the drop-

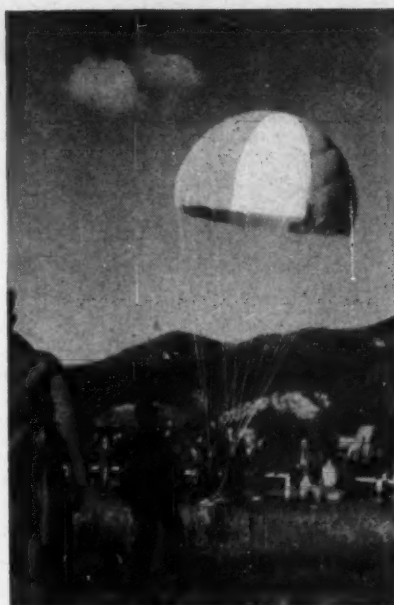
* See *Baseball 'Chute* in February, 1946, issue and *Paracargo Express* in April, 1946, issue of AIR TRANSPORTATION.

ping container for the bull semen. This cylinder container had to be so constructed as to cushion the shock to the tube containing the fluid. The semen, when prepared, is in a slight saline solution to thwart gravity pull and is cooled below animal heat for prolongation of animation.

In this test, the semen was stripped from the donor animal, prepared, and then rushed by car from the experimental farm to the air base. The cylinder was then attached to a four-foot baseball parachute and placed aboard a Commander Line C-47. Twenty minutes later George Enloe, vice president of operations for the airline, spotted the spread-out white ground panel and Cole pin-pointed the 'chute so that it descended gently on target. The waiting *estancia* owner with Dr. Rodriguez Rosas rushed the cylinder to the ranch barn where the selected "ready" cow received the application.

The same distance covered by car—one way—would have taken the cattle-owner nearly two days. This new idea stirred up considerable interest on the part of cattle ranchers in isolated areas, as well as the Government, as a means of improving cattle breeds in the difficult-to-reach *llanos* country between Colombia and Venezuela.

The second part of Operation III showed the commercial application of precision cargo delivery. From 500 feet above the Hipodrome de Bogota, operated by the Jockey Club, an excellent racetrack and paddock in the suburbs of Bogota, Cole and Rucker sent air cargoes earthward before a



500-FOOT DROP—Precision cargo drop at the Hipodrome de Bogota.

wildly enthusiastic crowd made up of Government and business officials and some 50,000 cheering citizens. Among the first deliveries were 100 special editions of *El Tiempo*, leading daily; a package of large steel washers; pseudo paper bills to simulate currency, mail-addressed to the President and Cabinet ministers of the Republic; national disaster items; a bundle of selected magazines such as *AIR TRANSPORTATION*, *Pan American*, *Saturday Evening Post*, *Sellecciones* (Spanish edition of *Reader's Digest*), and *Time*; precision machinery parts; drugs and serums.

The Author

Executive secretary of the Aviation Section, New York Board of Trade, Daniel H. Ecker has an extensive background as economic analyst in South America and Europe, and as a consultant-writer on air commerce. He has traveled widely, and served in the First World War with the United States Air and Engineer Corps, and in the Second World War as civilian advisor to the AAF. Ecker has held such positions as executive secretary of the Colombian-American Institute, Inc.; co-director, Inter-America House and World Trade Center, New York World's Fair; and industrial consultant, Institute of International Education.

El Gato made his third descent on this day, barking vigorously and tail wagging. (The Colombian Air Force later adopted him at its official mascot.)

All these items were selected by the writer to show the practicability of making daily deliveries from the two national air freight-passenger airlines, Lansa and Viarco,* to towns on their routes, where it was economically unwise to make stops, or where the terrain would not permit construction of an airstrip. The 'chutes would be returned by the Postal Department by regular surface routes as often as possible. The Ministry of Economy displayed great interest in this method.

The period of experimentation covered six weeks of research, arrangements, and practice, resulting in obtaining valuable data and ideas for United States and Colombian defense and commercial air freight operations.

* Limitada Nacional de Servicio Aéreo and Vías Aéreas Colombianas, S. A.

European Traffic Parley Aids Travel, Air Freight

The reestablishment of stopover privileges and circle trip discounts for air passengers in Europe, and announcement of an experimental air freight service at reduced rates were some of the results of the third European Traffic Conference of the International Air Transport Association.

While no definite effective date was set, John Brancker, deputy managing director of British European Airways and vice chairman of the conference, stated that stopover privileges dropped during the war, will be reinstated soon. Passengers will thus be able to break their journeys along a route and still have the advantage of the through rate from the start of the trip to the final destination. In addition, the 10 percent discount currently allowed on round trip passage will also be applied to circle trips. For example, a passenger booking a flight from Brussels will receive the discount.

Brancker announced also that some European companies will establish an experimental air freight service on some routes that will provide air shipments "at an attractive rate considerably less than the current rate for airfreight-express." The latter will be continued as an expedited service.

New Documentary Requirements For Air Shippers Told

L. A. Cholot, express traffic manager of Pan American World Airways, reports that all shipments to Colombia valued in excess of \$50 Colombian currency (approximately \$25 United States currency), "as written in the airwaybill under 'Value of Customs,' must be accompanied by a consular invoice, visaed by a Colombian consulate, and an import license." He further stated:

"To obtain the visa from the Colombian consulate the shipper must present with the consular invoice an import license which has been issued in Colombia and transmitted by the consignee to the shipper. The Colombian consulate will not visa the consular invoice unless this import license is presented at the same time. If there is not a Colombian consulate at the shipper's location in the United States or Canada, the visa on the consular invoice can be obtained from the consulate of a nation friendly to Colombia, if there is such a consulate thereat; otherwise the visa on the consular invoice must be obtained from a Colombian consulate nearest to the shipper's location."

The above is in addition to present requirements. Shipments valued for customs in the airwaybill at less than \$50 Colombian currency, or its United States equivalent, and shipments containing magazines, books, and newspapers, are exempt from the requirement, but must be accompanied by a commercial invoice.

AAF Enters Into Fuel Contract with Intava

The United States Army Air Forces, in meeting their worldwide aviation fuel and aircraft engine lubricating oil requirements, have entered into a contract with Intava, Inc. (International Aviation Associates) calling for into-plane delivery service in 43 countries throughout Europe, Africa, North America, and South America. This arrangement has enabled the AAF to withdraw military forces.

This tremendous operation of supply will be controlled by one contract which is the largest of its kind ever entered into by the AAF. The contract obligates procurement funds in excess of \$5,000,000, and in actual operation will permit large stocks of AAF fuel and oil that remained on hand at military installations at the end of the war to be handled and issued into aircraft on a service fee basis.

Rescue Centers Proposed At Caribbean Air Parley

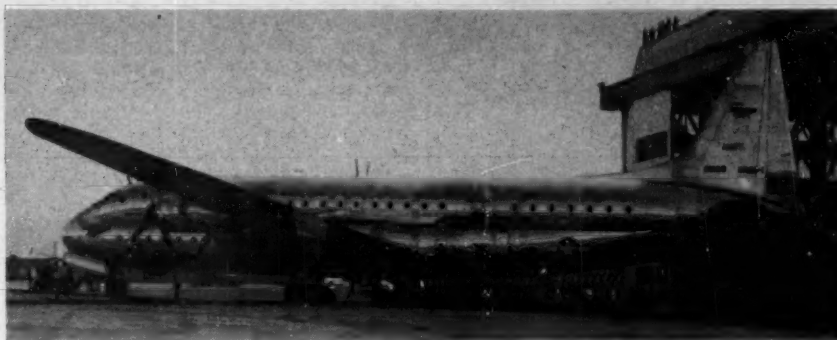
Under a plan submitted to the Caribbean Regional Air Navigation Meeting, PICAQ, by its Search and Rescue Committee, strategically located helicopters, long- and short-range aircraft, and boats would cooperate in aiding aircraft in distress. The establishment of eight rescue coordination centers in the Caribbean area with an additional 18 points as alerting centers have been urged by the group.

The committee called for 18 long-range planes to be kept available for search duty at a half-dozen points. Twenty-three intermediate and short-range planes would be maintained by the United States and seven other nations at 21 places. Eleven helicopters at six high-density traffic centers would be established "when performance, production, and maintenance problems of helicopters have been sufficiently improved." It was pointed out that these rotary wing aircraft might be "packed aboard transport aircraft and moved to a vantage point to pursue the mission at hand." Rescue boats would operate from 15 sites in five nations, and land rescue units would be established in four places.

IPA to Hear Arguments For Lower Postal Rates

When the International Postal Congress convenes in the French capital next year, two of the top items on the agenda will be reductions in air mail rates and the establishment of an international air parcel post system. United States postal experts are at the present time hard at work abroad, preparing proposals to the congress with the aid of European postal officials.

THE NAVY TAKES 'EM BIG



The Lockheed Constitution (XR-60), largest plane ever built for the United States Navy, shown as it was rolled into public view in Burbank, California, for the first time. Weighing 92 tons and having a capacity for transporting 180 passengers, the Constitution was designed to meet the Navy's need for a large, land-based, high-speed, long-range aircraft. Passengers may be carried on both decks of the plane—92 passengers on the upper deck and 76 on the lower. Cargo space runs from 2,000 cubic feet with 168 passengers, to 7,405 cubic feet when the entire lower deck is used for cargo. Spiral stairways, fore and aft, connect the two decks. Cargo doors measure 106-by-74 inches. Wingspan of the Constitution is 189 feet and overall length 156 feet.

Aeronaves de Mexico Will Serve Nogales

A temporary foreign air carrier permit has been granted by the Civil Aeronautics Board to Aeronaves de Mexico, S. A., to engage in foreign air transportation between Hermosillo, Sonora, Mexico, and Nogales, Arizona. The permit becomes effective November 7. Aeronaves has been operating scheduled air transportation service within Mexico for the past 12 years.

Babb Serving Many Points As Non-Scheduled Operator

The Charles H. Babb Company, Glendale, California, is going right along with its non-scheduled flights. Its planes—most of them are for eventual sales—serve the United States, Canada, Alaska, Central and South America. Babb will not drop these operations when planes are sold. For permanent transport use are a DC-3, a Beech C-45, a Cessna T-50, and two single-engine planes.



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An order for 20 Martin *Mariners* has been placed by the Navy with the Glenn L. Martin Company. This order may be increased later.

KLM has offered its last Fokker F-18 to the Curacao Museum. The *Snip* will soon be withdrawn from service and will become a showpiece at that time. It was this plane which made the first Westward midatlantic crossing from Amsterdam to the Netherlands West Indies 12 years ago.

The Aviation Distributors and Manufacturers Association will hold its fourth annual meeting at the Edgewater Beach Hotel, Chicago, on December 16-18.

The Aircraft Industries Association reports that 47 different models of personal and transport planes currently are in production by 29 American aircraft manufacturers.

Forbidden zones of flying have been listed by the Spanish Government. These include most of the Pyrenees frontier, the naval bases at Ferrol, Cadiz, and Cartagena, various zones around Gibraltar, and the Minorca naval base.

Panair do Brasil has inaugurated 24-hour service between Rio de Janeiro and Rome. Stops are made at Pernambuco, Dakar, and Lisbon.

The roof of The Merchandise Mart, in Chicago has been selected as a site for helicopter landings during the post office experiment in that city.

Work on Empire Airlines' own hangar and apron at LaGuardia Airport has been completed. The hangar can accommodate two of the line's planes, and is equipped with instrument and radio shops and testing equipment.

Five feeder airlines have been elected to membership in the Air Transport Association: Empire Air Lines, Lewiston, Idaho; Florida Airways, Orlando, Florida; Monarch Air Lines, Denver; Southwest Airways, Los Angeles; and E. W. Wiggins Airways, Norwood, Massachusetts.

CG-4A cargo gliders—232 of them—last month went on sale at \$75 each at four Army installations. Surplus craft, of course.

Marvin E. Holderness, treasurer of the St. Louis Municipal Opera and vice president of the First National Bank in that city, takes over the executive management of the Aviation Council of Metropolitan St. Louis, Inc., this month.

Wiggins Airways has requested permission to inaugurate service between Boston and Albany, with service suspended at 10 stops designated in its certificate. "Inadequate airport conditions" is the reason given. Joseph Garside, president, stated that his company has no desire to curtail service, but that safety comes first.

Announcement has been made of the formation of the Aviation Council of the Chamber of Commerce of the City of Newark. The organization points out that it is the first of its kind "wherein the local representatives of commercial airlines have, at their own insistence, organized to work out mutual problems of air transportation on a friendly and cooperative basis."

The United States and Brazil have signed a bilateral air agreement dealing with all phases of commercial aviation operations. The agreement grants to PAA free access to the "cut-off" route via Bareiras, between Belem and Rio de Janeiro, and Brazilian airlines are given authorization to fly to New York with Chicago as a possible future stop.

New branch offices of the International Air Transport Association have been established at Johannesburg and Sydney.

Pan American World Airways has resumed flights to Manila with fares from Los Angeles and San Francisco set at \$726. The airline has applied for the granting of lower fares in the Pacific area.

Australia has concluded an air transport agreement with Canada, and steps have been taken to establish regular service between the two countries. Interim service will be operated by Australian National Airways under contract to British Commonwealth Pacific Airlines. Planes will fly the Sydney-Fiji-Canton Island-Honolulu-San Francisco-Vancouver route.

Taylorcraft Aviation reports the production of its full-sized, two-passenger plane, the *Ace*. It will sell at \$1,995.

KLM has opened offices at 1 Finlayson Green, Singapore. This was a part of the reconstruction of Netherlands civil aviation in the Far East.

Eastern Air Lines and Pan American World Airways have entered into a contract whereby EAL is permitted to use PAA's facilities at San Juan.



Capital Airlines-PCA Skyshipper Service in full gear as an iron lung is loaded aboard a cargo plane. Recently two such iron lungs and four hot pack machines were sped by the airline from Buffalo to Des Moines in the fight against infantile paralysis. Capital is one of the newer entrants into the air freight field.

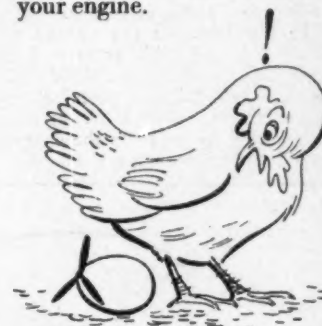
HANGAR FLYING



The Unhatchable Egg

Research engineers out at Lockheed have been crowing about their new egg that flies but won't hatch. It's a *Constellation* engine assembly called the Universal Power Egg, and the way it simplifies maintenance is something.

For instance: gone are the antics that crews used to go through trying to expose an engine on a transport. Hinged, detachable cowl panels on the Egg flip back like the hood on a car, and there's your engine.



What's more, the oil tank in the Egg is forward of the fire wall. This may not sound exactly sensational, but one of the big time-eaters during engine changes has always been the inaccessibility of the tanks for cleaning.

The Power Egg is so universal that, theoretically, you could install Wrights on one side of the *Constellation* and P&W's on the other. No airline has tried this.

The previous Egg was all right; but Lockheed characteristically developed a better one. And it's this kind of self-starting ingenuity that makes good pilot-room talk and better ships.

L to L for L

©1946, Lockheed Aircraft Corp., Burbank, Calif.

IT'S AN *Air* WORLD

[REG. U. S. PAT. OFF.]

By L. A. GOLDSMITH, *Economic Analyst*, AIR TRANSPORTATION

The current export situation of the personal plane, with special emphasis on the output of four manufacturers, as well as some reflections on international air transportation by an American and a Briton.

IN the international field, personal flying has been making a dent in the consciousness of air-minded individuals for at least a decade or longer. Here, in the United States, we are on the threshold of a great development in personal flying as a new phase of modern life. In the opinion of some experts, up to now, when Americans took up personal flying, it was more or less in the nature of a sports pastime or that of a passing fad. Today the situation is different. Personal flying is becoming a business or professional tool, as well as having its pleasure angle.

In some localities, particularly in the Middle West and West, the personal plane is rapidly becoming an economic

necessity. As the Aeronca Aircraft Corporation discovered from a survey it made recently, people who will buy personal planes in the future will be "middle class" buyers—family purchasers, with a husband, wife and two or three children, who will use their plane as a household necessity, much as they now do with their automobile.*

Abroad, if the comparison holds good in the future as it has in the past, the personal plane will be classified as a semi-luxury, and will be purchased only by those people who can afford to buy a moderately priced automobile. Such a group of prospec-

* See June, 1946 AIR TRANSPORTATION.

tive purchasers is much less in quantity in each country, but taken in the aggregate, from a global viewpoint, it is an excellent market potential. Furthermore, there are already distinct trends visible in the merchandising and distribution of American personal planes in world markets.

For the purpose of getting a "plane's eye view" of the present export situation, we took under consideration just four of the personal plane manufacturers: Aeronca Aircraft Corporation, Middletown, Ohio; Piper Aircraft Corporation, Lock Haven, Pennsylvania; Republic Aviation Corporation, Farmingdale, Long Island, New York; and the Globe Aircraft Corporation, Fort Worth, Texas.

The export sales developments of the personal planes manufactured by these companies—the Aeronca *Chief* and *Champion*, Piper *Cub* and *Cruiser*, Republic *Seabee*, and the Globe *Swift*, really indicate a cross-section of what can be expected in the trends of the present and future world market possibilities and export merchandising methods in this type of aircraft.

Looking into the methods of merchandising and marketing in foreign trade, a distinct procedure and definite trend can be noted. Manufacturers in the export field for many years, such as Aeronca and Piper, as well as the

Ships of the SEA and Ships of the AIR Will Sail Together

WHEN the age of all-out cargo-by-air arrives, the ships of the sea will still be sailing.

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The shipping men of America look on the

coming of cargo-by-air with no dismay—but with a feeling that a new and powerful partner is about to join them in providing the sinews of reborn international trade.

They feel, too, that the true destiny of our foreign trade in the postwar world requires not competition but cooperation, not rivalry but partnership, between these two great modes of transport, in realizing the great new world that will then lie before us.

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National President
★

newcomers as exemplified by Republic and Globe, are using the same techniques of distribution. This comprises the establishment of the manufacturers' products in foreign countries by handling them in the majority of cases through export firms usually designated as export manufacturers' representatives. These representatives handle their own financing; that is to say, they purchase the merchandise outright on a wholesale price basis from the manufacturers, and in turn are allotted definite territories for the exclusive sale of the products. The manufacturers' representatives appoint their own foreign distributors and dealers for the ultimate sale to consumers in foreign countries. Payments for the goods are handled through letters of credit opened in favor of the export selling representatives, and payable to them on shipment of merchandise from the United States.

The four New York export firms acting as export sales representatives for the forementioned manufacturers are AviQUIPO, Inc. (Aeronca); Frank Sheridan Jonas, Inc. (Piper); Smith, Kirkpatrick and Company, Inc. (Republic); and Walter Kilbourne, head of the Global Aviation Company (Globe).

These firms seem to have had about the same experience in developing export business in the personal plane field. Their markets begin with the Latin American countries, and then go into other sections of the world. At present the good markets are Latin America in this hemisphere, and Belgium and Sweden particularly good in Europe; the Union of South Africa stands high. Some other markets have difficulties at the present time, in many cases due to restrictions, shortages of foreign exchange, or war hangovers.

Territorial allocations differ with each manufacturer and range from complete world sales rights to modified export sales arrangements in which certain countries are excepted from the general export agreements. In other cases the territorial arrangements may cover only certain well-defined regional territories, such as all of Latin America, Europe, or the Far East.

Piper has had for many years an export sales arrangement with Frank Sheridan Jonas, Inc. for all of Latin America, as well as certain other territories, such as Sweden, Iceland, Belgium, and the Belgian Congo. Piper sells direct in Canada, Hawaii, England, Ireland, Syria, Lebanon, and the Union of South Africa. Other parts of the world are retained by the manufacturer for direct export sales. However, when requests for representation for specific territories are received, and in which Pipers are not yet sold, each

case is then decided on its own merits—whether the new export territory will be handled direct from the Piper factory, or become part of the Jonas firm's export sales representation. The price of the two-seater *Cub* is \$2,195, and for the three-seater *Cruiser* \$3,205. The smaller plane has a cruising speed of 73 miles per hour, and the larger 103 miles per hour. Top speeds are 83 and 115 miles per hour, respectively.

The Aeronca planes have been sold abroad for many years by AviQUIPO under a world sales territorial arrangement, with the exception of Canada, Mexico and Hawaii, which are handled direct from the factory. The price range covers the *Champion*, a tandem two-seater at \$2,395; and the *Chief*, a side-by-side two-seater at \$2,585. Cruising speed of the *Chief* is 90 miles per hour, and the top about 100. Speeds of the *Champion* are slightly less.

AviQUIPO also finds Latin America, Sweden, Belgium, and the Union of South Africa tops at the moment. In addition, they consider the following countries to have excellent potential possibilities as soon as restrictive conditions have been lifted: India, where the company has its own branch house, with headquarters in Calcutta; China; Australia; New Zealand; and Rhodesia. Egypt has not been developed as yet because of general conditions resulting from the war.

The company also handles the Schweizer glider for export, both one and two-seaters, the single-seater selling for \$1,125, and the two-seater for \$1,475. The prices of these craft are always list, to which usual export discounts apply; these vary according to countries and conditions for sale. AviQUIPO also specializes in a variety of aviation and accessories.

Republic and its amphibian *Seabee* are represented for world sales by Smith Kirkpatrick with just two exceptions: Canada and Alaska. These are retained by Republic to handle direct from the factory.

Smith Kirkpatrick is going after this aviation export business in a big way.

As the *Seabee* is new even in the domestic field, the firm has had the plane for export development for only a short time, but it has the facilities of a well-staffed aviation department with competent technical personnel, both at home and in the field. The company places particular stress on service and maintenance.

The *Seabee* sells at list for \$4,495, and has a cruising speed of 103 miles per hour and 120 top. There are some additional charges for special equipment which is included as part of the finished installation of the plane before it leaves the factory. This additional

equipment consists of the Hartzell manually controlled reversible pitch propeller at \$350. It affords pitch adjustment in the air as well as reduces fuel consumption, and permits greater facility in docking and much better maneuverability in the water. Also included in the *Seabee* installation is the cross-country instrument panel at the additional cost of \$150. This includes back and turn indicator, sensitive altimeter, sensitive airspeed indicator directional indicator compass, manifold pressure gauge and an eight-day-sweep hand clock. These additions then bring up the price of the plane to \$4,995.

Considering the short time Smith Kirkpatrick has had the *Seabee* representation, the territory already developed for representation is quite remarkable. The Latin American countries are practically all allocated. They have established a European regional representative who now is making agency arrangements for the individual countries. The Union of South Africa already is developed for representation with headquarters in Pretoria. Rhodesia is under negotiation. The Far East requires time for the elimination of restrictive general conditions.

An interesting representation set-up is that established by Smith Kirkpatrick in New Caledonia, covering all the French possessions in the Pacific under the general direction of Henri Dewez. That shows some far-sightedness when you consider the possibilities of far-flung Pacific island bases.

Australia is in the stage of pending negotiations, and by the time the supply is equal to the demand, the firm hopes to have all the overseas territories well under way for export sales distribution. It also represents the Franklin engine, manufactured by Aircooled Motors, Inc. These engines are sold to countries in which there is plane manufacturing. Smith Kirkpatrick also handles a complete line of aircraft accessories and aviation equipment.

Globe has granted world sales rights with no exceptions to Warren Kilbourne for the *Swift*. The *Swift*, which is an all-metal two-seater and sells for \$4,395 list, has a cruising speed of 140 miles per hour with about 160 top speed. Earlier in the year their plans had been developed for a high number of export sales, but these plans were severely handicapped by the loss in production due to strikes and other delays. For that reason it held up some of its contemplated representation agreements in foreign countries. At present a limited number of representations has been established in the major Latin American countries. The set-up is slightly different from the other export manufacturers' representatives, as Kil-

bourne has complete world sales rights with no territorial exceptions. Kilbourne also has a production allocation of about 20 percent.

The other export firms selling personal planes have a fairly small percentage of factory production for their export sales, even though demand is much higher.

All in all, the future for American personal planes in the foreign trade field looks very bright. Such a development of export distribution of American personal planes must have a far reaching effect in foreign countries.

* * * * *

James A. Landis, recently appointed chairman of the Civil Aeronautics Board, and Randolph Churchill, British political writer (and son of Winston Churchill, former Prime Minister), have both contributed some fundamental opinion on the significance of the above mentioned factors.

In a report at the end of his first month on the board, Landis said:

"Air transportation will have even greater influence on world affairs than on national events."

This single sentence is sufficiently striking when taken by itself. When viewed in the framework of the general context from which it is quoted, it stands out with still greater significance against the perspective of a broad global outlook. The CAB chairman's more inclusive comments were:

"Air transportation is much more important than surface carriers, despite the relatively small volume which planes will haul, because of its effect on shrinking distances.

"Manufacturers are strategic figures in the development of aviation, since a single new design might change the whole picture. About 10 years ago, for instance, the Douglas DC-2, long recognized as the standard airliner, virtually saved the airlines by reducing costs and increasing speed, safety, and comfort.

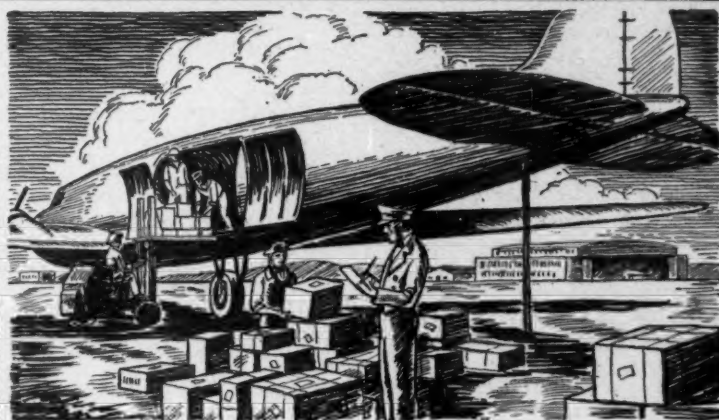
"In international aviation, the policy we will follow, should be clearly drawn

within three years. *Air transportation will have greater influence on world affairs than on national events.*"

The importance of international air transport, as well as the strategic value of a manufacturer's design, is significantly commented on from another source—not from the aviation viewpoint, but from the international one regarding the importance of aviation when viewed from a national perspective other than our own; for instance, the British point of view. Churchill, writing from Paris under a May 29 dateline, had this to say:

"Britain still lags painfully behind

the United States in civil aviation . . . However, many are optimistic about the long range future of British aviation. British hopes center about gas turbines. Those most qualified to judge consider Britain is far ahead of the Americans in this field . . . But Britain is far behind the United States in airframe design. Hence many British aviation progressives are urging that she should throw aside considerations of national pride, and buy American airframes in which to mount the highly successful gas turbines. Otherwise Britain will continue to lag behind the United States."



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AIR TRANSPORTATION Books

AERONAUTICAL NAVIGATION—By CHARLES ZWENG (*Pan American Navigation Service*, 12021 North Ventura Boulevard, North Hollywood, California; 198 pages; \$3.00). Fully illustrated, the book is a practical navigation text for the airman. The book covers pilotage, dead reckoning, and radio navigation. A "multiple choice examination" and a glossary of navigational terms are included.

AIR TRAVEL GUIDE TO LATIN AMERICA—By IVAN BULLOT. (*Franklin Watts, Inc.*, 285 Madison Avenue, New York; 369 pages; \$5.00). Current information on airlines, hotels, eating places, what to see, where to go, etc. Maps and itineraries included. A handy volume to have around.

AIRCRAFT CARBURATION—By ROBERT H. THORNER. (*John Wiley & Sons, Inc.*, 440 4th Avenue, New York; 393 pages; \$3.50). The book is the outgrowth of a series of lectures given by Thorner four years ago at the University of Michigan. It deals with fundamental principles of aircraft carburetors and related equipment. Complete with charts and pictures.

THE AIRCRAFT MANUFACTURING INDUSTRY—By GEORGE BRYANT WOODS. (*White, Weld & Co.*, 40 Wall Street, New York;

119 pages). A reference book for investors in aircraft securities. Well illustrated.

CAREERS IN AVIATION—By SAMUEL BURGER (*Greenberg Publisher*, 400 Madison Avenue, New York; 209 pages; \$2.75). Here's a book for the aviation enthusiast who would like to earn his living in aviation. We recommend this book to students as a practical, lucid vocational guide. Burger has done a good job.

DAWN OVER ZERO—By WILLIAM L. LAURENCE. (*Alfred A. Knopf*, 501 Madison Avenue, New York). The author is the science reporter for *The New York Times* whose first vivid stories on the atom bomb raised a storm of favorable comment. Here's the full story of the atom bomb—a good book authored by a good writer.

THE FIRST DENVER CONGRESS ON AIR AGE EDUCATION—(*University of Denver Press*, Denver, Colorado; 139 pages; \$2.50). This book represents the proceedings and recommendations of the First Air Age Education Congress at Denver last year.

THE INDUSTRY-ORDNANCE TEAM—By LIEUTENANT GENERAL LEVIN H. CAMPBELL, JR. (*Whittlesey House*, 330 West 42 Street, New York; 461 pages; \$5.00). The Chief of Ordnance, United States Army, tells the amazing story of the great wartime achievement in producing and delivering the goods which won the war. How the "Arsenal of Democracy" operated.

LOUISVILLE, THE GATEWAY CITY—By ISABEL McLENNAN McMEEKIN (*Julian Messner, Inc.*, 8 West 40 Street, New York; 279 pages; \$3.00). Another in the series

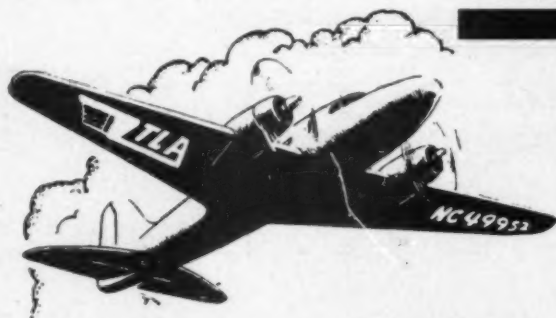
of Cities of America biographies. An interesting history written by a native of Louisiana, who has five novels to her credit. Finely illustrated by Orville Carroll.

THE MODEL AIRCRAFT HANDBOOK—By WILLIAM WINTER (*Thomas Y. Crowell Company*, 432 Fourth Avenue, New York; 345 pages; \$2.50). New revised edition written by the editor of *Air Trails Pictorial*. Complete and up-to-date information on the fascinating subject of model plane construction, design, and flying technique. Plenty of illustrations plus a 12-page glossary.

NEW ZEALAND; PACIFIC PIONEER—By PHILIP L. SOLJAK. (*Macmillan Company*, 60 5th Avenue, New York; 197 pages; \$2.50). An introduction to a country we will be hearing about more and more. Well-rounded and interestingly written by a man who is a New Zealander by birth, upbringing, and education.

SOVIET ASIA MISSION—By HENRY A. WALLACE. (*Reynal and Hitchcock*, 8 West 40 Street, New York; 254 pages; \$3.00). The former Secretary of Commerce tells the story of his trip through Soviet Asia in the Summer of 1944. A first-hand report, with commercial and diplomatic implications.

WHILE TIME REMAINS—By LELAND STOWE. (*Alfred A. Knopf*, 501 Madison Avenue, New York; 379 pages; \$3.50). One of the better-known foreign correspondents paints a vivid picture of our present world. Democracy, Fascism, Communism are discussed and analyzed. The book is well-documented and makes rich reading.



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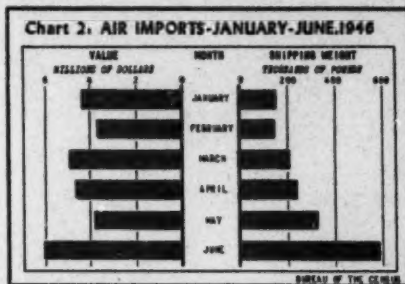
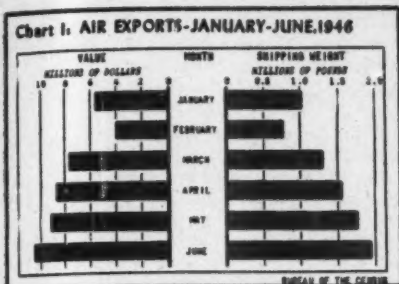
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[REG. U. S. PAT. OFF.]



The Department of Commerce reports that during June air imports rose to \$6,048,000 with weight at 589,000 pounds—the best month this year. The gain of \$2,208,000 and 263,000 pounds over May was attributed to an influx of furs, manufactures, and precious metals through LaGuardia Airport. Air exports likewise hit a new top, amounting to \$10,577,000 and 1,945,000 pounds in weight. The airport at Miami continued to be the leading air export center, handling 51 per cent of the nation's business in this category. LaGuardia Airport handled 56 per cent of the total value of air imports.

AEROVIAS BRANIFF

An increased capitalization from one to 20 million pesos by Mexican financiers has been announced by Thomas E. Braniff, founder and former president of the airline.

Completing the Mexicanization of the company suggested by President Camacho as a part of the development of Mexico's commercial aviation, is the formation of a new board of directors. Alfonso Guzman Neira, Mexico City attorney has been named president succeeding Braniff who resigned to become vice president and a member of the governing board. Other officers include Miguel Lanz Duret, Alberto Sanchez Llorente, Vicente B. Flores, and Luiz Chico Mena, board members; General Elmer E. Adler, Angel Taverro and Douglas Stockdale, vice presidents; Armando Bernal Estrada, treasurer; Antonio Correa, secretary; and Adalberto Saldana Vallalva, deputy officer.

CAPITAL

In the midst of the greatest expansion and transition period in its history, Capital Airlines-PCA sustained a net loss of \$747,763 in the first six months of 1946, Presi-

dent C. Bedell Monro reported to stockholders.

Capital's cash position remained strong, Mr. Monro said, with total current assets, as of June 30, of \$6,943,483. Of this amount, cash and United States Government securities totaled \$4,164,454 with current liabilities of \$4,532,655 at the same date.

The report showed a sharp increase in revenue passengers flown so far this year—82.1 percent more in the first six months of 1946 than in the same period of last year. The total to date was listed as 596,647 passengers as compared with 312,771, in 1945. Marked gains also were noted in both revenue-miles and revenue passenger-miles. A total of 8,486,109 revenue-miles and 166,534,725 revenue passenger-miles were flown—increases of 86 percent and 127 percent respectively over six months of 1945.

CHICAGO & SOUTHERN

C&S flew 73 percent more revenue passenger-miles during the first eight months of 1946 than it did during the same period of 1945. This involved carrying 95 percent more revenue passengers.

A. J. Earling, vice president traffic and

sales, reported that the airline flew 90,929,000 revenue passenger-miles during the January-August period. The company carried 227,200 revenue passengers, as against 116,481 for the same period of 1945.

COLONIAL

Colonial Airlines passenger travel established new company records for the fifth consecutive month when 19,129 passengers flew 6,381,190 revenue-miles in August.

Passengers carried were 7,591 more than in August, 1945, and 2,308 more than in July, 1946. Revenue passenger-miles increased 1,560,417 or 32 percent over the month of July, and more than 75 percent more than August a year ago. Mail and express also showed substantial gains for the month of August. Mail pound-miles totaled 11,293,469, which was 48 percent greater than August, 1945, and 21 percent more than July, 1946. Express pound-miles totaled 15,438,151 or 90.5 percent more than the same month a year ago.

DELTA

Delta Air Lines reported an operating profit of \$634,827, or a net income of \$362,114 after taxes and other deductions, for the fiscal year ending June 30, 1946.

C. E. Woolman, president and general manager, announced the airline earned a profit of 90 cents per share on outstanding stock. The per-share profit for the past fiscal year reveals a drop of 45 cents from the fiscal year 1944-45, in spite of large increases in all phases of business. The drop was attributed to an approximate 10 percent reduction in fares and increased operating costs due to the completion of the largest expansion program in the history of the company.

During the fiscal year Delta maintained a load factor of 80 percent, carried 410,312 revenue passengers, 4,830,383 pounds of mail, and 1,551,056 pounds of air express. Total number of revenue passenger-miles flown was 150,071,985 as compared with 84,876,923 for the preceding year, and 51,843,940 for the fiscal year 1943-44. The airline completed 96.63 percent of all schedule miles during the year, and personnel jumped from 982 to 2,350 employees.

Passenger traffic during August increased more than six times over traffic in August, 1941. Delta transported 52,107 passengers, as compared with 27,006 passengers during August of last year. Revenue passenger miles flown during August, 1946, totaled 20,656,000 as against 9,541,190 a year ago.

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EASTERN

Net earnings after all charges for the company of \$1,838,970 for the six months ended June 30, 1946, have been announced by Eastern Air Lines. This was an increase of 115 percent over the net of \$856,788 reported for the first half of 1945, equalling 86 percent of the net profit for the full year of 1945.

Based on the 2,395,572 shares outstanding at June 30, 1946, net earnings were 77 cents for the first six months of 1946 as compared to 36 cents on the same number of shares for the comparable period in 1945.

Operating revenues of the company for the January-June period were \$17,885,614, an increase of 45 percent over the same period of 1945 which totaled \$12,323,642, while revenue passengers carried increased 70 percent to 661,000 due to an increase of 7,016,094 revenue plane-miles or 57 percent.

The highest traffic figures ever recorded in one month by EAL were set in August, during which month over 150,000 revenue passengers were carried, compared to 85,000 in August, 1945; 76,500,000 revenue passenger-miles as against 43,300,000; and 3,725,000 revenue-miles compared to 2,500,000.

NATIONAL

An increase of \$56,959.55 over 1945 in net earnings for the fiscal year 1946 were reported today for National Airlines, by George T. Baker, president, in his annual report to stockholders. Earnings for 1946 were \$226,538.85 after provisions for taxes—equivalent to 38 cents per share on 500,000 shares of common stock outstanding on June 30. This compares with net profits of \$169,579.30 after taxes for the fiscal year ended June 30, 1945.

National established a new all-time high during 1945-1946 by flying a total of 108,746,383 revenue passenger-miles—an increase of 88.87 percent over the 57,578,848 revenue passenger-miles during 1944-45. During the same period, available seat miles increased 97.38 percent from 62,581,275 to 126,844,547.

"The 1945-46 figures, however," Baker said, "do not fully reflect the effect of our new transports (five DC-4s) on our operations as they were not placed in service until February, the eighth month of our fiscal year. A better indication of National's expansion during its first postwar year is obtained by comparing the month of June, 1946, with June, 1945. During June, 1946, we flew 17,254,224 revenue passenger-miles as against 6,997,190 revenue passenger miles in June, 1945—an increase of 147 percent. Available seat miles during

SURREY AUDREY



Eight weeks old, but already a seasoned air traveler—via Air Express, of course. Surrey Audrey was air expressed from New York to San Francisco by Dogs, Inc., and when the dog was delivered this note was attached to it: "Audrey was the nicest passenger we ever had. All of us fell in love with her."

June, 1946, reached 21,381,248—a 180 percent increase over June, 1945. Total number of passengers carried in June, 1946, was 27,859—an increase of 110 percent over the 13,226 passengers during June, 1945."

PAN AMERICAN

Pan American World Airways has completed arrangements with New York banks for a credit of \$40,000,000 to take care of its cash requirements in the next 21 months. The interest rate is 1½ percent plus a charge of ¼ of one percent on unused balances. This credit is to be converted to a four-year term loan with interest at 1¾ percent beginning July 1, 1948, at the option of PAA.

The banking group is headed by the National City Bank, the Guaranty Trust Company, the Chase National Bank and other leading New York banks, with the New York Trust Company acting as agent. Out of town banks in cities served by Pan American will also participate. Pan American has made this credit arrangement largely to meet payments on the purchase of new equipment.

PANAGRA

Pan American-Grace Airways flew 42,847,283 passenger-miles and carried 52,501 passengers and 1,571,718 pounds of mail and freight during the six month period ending June, 1946. This compared with 36,663,656 passenger-miles, 43,511 passengers and 1,668,801 pounds of mail and freight in the corresponding six months period of 1945. The 1946 figures show an increase of 14 percent in passenger-miles flown and 21 percent rise in passengers carried over the previous year.

REPUBLIC

Republic Aviation Corporation reported earnings of \$496,140 for the first half of 1946, based on sales (including termination sales) of \$18,849,311 for the same period. The earnings reported are after provision for taxes and charges to reserve for postwar readjustments of \$777,580 incurred to date, representing abnormal costs arising from the conversion to peace time operations and delays in deliveries of raw materials, production tools and equipment.

Alfred Marchev, president, announced the company's backlog of business on June 30, 1946, exclusive of Aircooled Motors, was \$81,431,000 as compared with a Dec. 31, 1945, backlog of \$45,276,000. This current backlog of aircraft business includes: Firm orders for Rainbow commercial transports and Seabee personal planes totaling \$31,743,000, exclusive of spare parts; orders from the United States Government for military projects, totaling \$49,688,000.

UNITED

Cargo operations of United Air Lines showed an increase of nearly 125 percent over the same period last year. The airline flew an estimated 849,000 cargo ton-miles in August, and shipments included everything from wearing apparel, perishables and machine parts to a kangaroo and St. Bernard dogs.

WESTERN

Western Air Lines flew 21,665,458 revenue passenger-miles in July to establish an all-time monthly record in the company's 20 years of operation. This record marks a 113.94 percent increase over the 10,126,867 revenue passenger-miles flown in July, 1945, and 13.35 percent over June, 1946.

Express pounds carried showed a 6.29 percent increase over the corresponding month last year. The July, 1946, figure is 152,415 pounds as opposed to a 1945 figure of 143,401 pounds. Express pound-miles flown show an increase of 7.95 percent advancing from 63,779,066 for July, 1945, to 68,848,629 for July, 1946.

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★ EXECUTIVE ★

ELLIOTT ROOSEVELT, son of the late President Franklin Delano Roosevelt, elected president of Empire Airlines, New York; and **DEAN ALFANGE**, founder of the company, now serving as chairman of the board and general counsel. Roosevelt, who served as a brigadier general during the war, is working full time at being airline president. He is the author of the current best seller, *As He Saw It*, published by Duell, Sloan and Pearce.

D. A. FORWARD, elected to the board of directors of the Boeing Airplane and Boeing Aircraft Companies. He is a senior vice president of the National City Bank of New York.

STUYVESANT PEABODY, JR., elected to Eastern Air Lines' board of directors. He is head of the Peabody Coal Company in Chicago, and a former AAF officer in the Pacific area.

SIDNEY A. STEWART, new executive vice president of Chicago and Southern Air Lines. He comes to C & S from the United Aircraft Corporation where he served as vice president and general manager of the Hamilton Standard Propellers Division. He was a naval aviator in World War I and has held a private pilot's license since 1933.

O. C. ENGE, named assistant vice president-passenger service of United Air Lines. He recently returned to UAL from service as a lieutenant colonel in the ATC where he was executive officer in the priorities and traffic division.

WILLIAM F. PRIGGE, appointed assistant to the vice president of American Airlines. A graduate of the University of Pennsylvania, Prigge has been with AA for more than eight years.

KENNETH P. BOWEN, named assistant general manager of the Fairchild Aircraft Division of the Fairchild Engine and Airplane Corporation. He comes to Fairchild after 15 years' experience with North American Aviation, Inc.

W. G. GOLLEN and **M. E. SHEAHAN**, appointed to the respective positions of assistant general manager-technical and assistant general manager-administrative in the International Division of TWA. Gollen has been with TWA since 1930; Sheahan is a veteran transportation man, his experience including buses, railroads, and steamships.

★ ADVERTISING ★ PUBLIC RELATIONS

JOHN PAUL ANDREWS, former executive editor of *Air News*, appointed director of advertising and publicity for C & S. He is one of the better-known aviation writers in this country, and recently served as governor of the New York region of the Aviation Writers Association. Andrews is a native of Minneapolis, and attended the University of Minneapolis.

JAY C. ABBOTT, named news bureau manager for KLM, North American Division. Abbott has been connected with Capital Airlines where he headed the news bureau, and with American Airlines as publicity representative.

PHILIP C. HAMMOND, now serving as public relations director of Aerovias Latino Americanas. Formerly assistant public relations manager for Slick Airways, Hammond's background includes seven years' advertising and publicity work and four years as a military pilot.

JOSEPH D. RYLE, appointed Eastern Regional director of public relations for American Airlines; and **DAVID E. NOPPER**, named chief of the airline's Washington public relations division. Ryle recently returned from a six-month assignment in Europe where he organized public relations activities for AOA. Prior to the war he had his own publicity firm for eight years. Nopper headed the press section at Marine Corps Headquarters in the capital, and later served as public relations officer and press censor on the staff of Fleet Admiral Chester W. Nimitz. He was Associated Press writer before the war.

JOSEPH F. DRURY, JR., **BILL ROSS**, and **EDWARD L. SELLERS**, new members of Capital Airlines' public relations staff. Drury, a former United Press writer, will be attached to the New York staff; Ross, another UP man with radio experience, goes to the Washington staff; and Sellers, who was publicity assistant for a railway, will manage the Southern Region news bureau.

EDWARD A. STERN, named head of Northwest Airlines' public relations in New York. He was formerly associated with PAA.

★ TRAFFIC ★

JOHN J. LILLIS, appointed reservations superintendent for PAA's Latin American Division. He served for seven years in various staff and administrative capacities with Panagra before joining PAA earlier this year.

STAN O. HALBERG, with United Air Lines for more than 13 years and most recently assistant district traffic and sales manager at San Francisco, now with LAMSA, United's Mexican subsidiary, as traffic manager.

JERVIS LANGDON, JR., named general traffic manager of Capital Airlines. Before entering the armed forces in 1942, he served as assistant vice president-traffic for the Chesapeake and Ohio Railroad.

DAVID E. MIDGLEY, appointed assistant traffic director for TWA's International Division. Midgley is a former steamship man.

A. B. HAYES, former mayor of Juneau and one of the aviation pioneers in Alaska, now serving as regional traffic manager in Alaska for Northwest Airlines. During the First World War he served in the Naval Air Service, and has been connected with aviation almost continuously since that time.

LANIER J. BISHOP, **GERTRUDE M. ROCHE**, and **ALLAN M. DEXTER**, named by Eastern Air Lines to the following positions: Bishop, Carolina district manager; Roche, New England agency manager; Dexter, city manager in Providence.



Philip C. Hammond



Joseph D. Ryle



M. L. Anderson



James W. Mariner



R. L. Mangold



D. J. King

★ CARGO ★

M. L. ANDERSON, appointed by Braniff International Airways to the post of traffic manager of the Air Mail and Air Cargo Department. He was associated with the Railway Express Agency since 1931, for which company he was general agent in several cities. Anderson also served as part-time traffic manager of the Bluebird Bus System for the compilation and publication of schedules and tariffs.

JAMES W. MARINER, now filling the position of cargo traffic manager for the International Division, TWA. He has been with TWA since leaving the Navy last year where he served with the Seabees as cargo operations officer. Mariner has prewar transportation experience.

R. L. MANGOLD, named superintendent of freight sales for United Air Lines; and **J. WILLIAM DENNY**, new cargo chief at Cleveland for the airline. Mangold joined UAL in 1943 after five years with freight concerns on the West Coast; Denny has been with the airline for eight years.

★ PASSENGER ★

H. F. "PAT" BARNES, **RICHARD A. ASHBY**, **DAVID H. ROBERTSON**, and **G. S. TAYLOR**, appointed by United Air Lines to the following positions: Barnes, assistant to the vice president-passenger service; Ashby, passenger service manager at Honolulu; Robertson, Eastern Region passenger service manager; Taylor, Western Region passenger service manager.

LLOYD SMITH, new manager of NWA's ticket office at Anchorage, Alaska. He has been with the airline since 1939.

CLUNET R. LEWIS and **WARREN CHAILLE**, named to the respective posts of Northern Division reservations manager and reservations manager in

Jacksonville, Florida, for Eastern Air Lines. Lewis has been with EAL since 1938, and Chaille since 1940.

★ SALES ★

RICHARD M. MORGAN, appointed manager of Boeing Aircraft's sales office at Wichita. Thirty-six years old, Morgan joined Boeing nearly six years ago. Last May he received the Bronze Star for outstanding assistance to the 21st Bomber Command as Boeing's chief service engineer in the Mariannas.

FRANK H. SHELDON, new assistant in charge of sales to the traffic manager of PAA's Latin American Division. Sheldon has worked for Panagra as well as for the Grace Steamship Company.

EDWARD J. SEIFRIED, named Newark sales manager for Capital Airlines. He joined the company last fall following his release from the AAF.

★ OPERATIONS ★

D. J. KING, appointed by NWA to the post of general manager of the Orient Region. A pilot for 20 years, King headed the airline's operation of military cargo routes over Northwestern Canada, Alaska, and the Aleutians, during the war. He joined NWA as a copilot in 1937.

WALTON H. SMILEY, elevated to the position of operations manager, Eastern Region, TWA.

MONTE H. SNEDEKER, a former CAA official, named assistant operations manager for C & S. He is a native of Fort Worth, Texas.

★ MISCELLANEOUS ★

PETER MASEFIELD, former British civil air attache in the United States, who has been promoted to the new post of director of planning and projects for the British Ministry of Civil Aviation.

TOP MEN OF ATCNV



Richard T. McIntosh (seated, right), Pan American Airways, was elected to head the Airlines Traffic Club of New York during the 1946-47 term, succeeding Warren A. King, United Air Lines. Next to McIntosh is Alfred Nyhlen, Scandinavian Airways, who has taken over the vice presidency. Other elected officials of the organization are (standing, left to right): Franklin D. Hunt, Northeast Airlines, Program Committee chairman; Richard Unger, National Airlines, secretary (since resigned); A. H. Gray, TACA Airways, treasurer; and John F. Budd, Jr., Northeast, director of publicity and public relations.

Air Transportation, the Nation, and the World

(Continued from page 16)

the ground, in equipment, and in air crews.

So, despite the international ideal, we see that air transport is a highly potent national force in what is still a world of national units. These national forces are probably at variance with the best interests of aeronautical development in the narrowest sense. But in the present state of world development it seems inevitable.

What we can hope to achieve is the utmost development of air transport in the world pattern of today, consistent with certain basic safeguards to prevent abuses which would lead to the traffic of small nations suffering from excessive exploitation by the larger.

I believe that the principles of *ex post facto* regulation, established at the Anglo-American Civil Aviation Conference at Bermuda early this year, are by far the most hopeful and satisfactory yet evolved for promoting the free development of international air transport on the widest scale while maintaining national essentials. And I believe that the Bermuda principles applied uni-

versally provide the best hope for the peaceful achievement of mass air travel on the widest scale in the shortest time.*

The details of the Bermuda provisions have been criticized both in the United States and in England. But I feel confident that they will stand the test of time, with large nations and small alike, after more restrictive practices have gone on the scrap heap.

When we try to analyze the fundamentals of the air transport business on a basis of practical considerations for world neighbors it seems to me that three things stand out:

1. Commercial aviation is essentially international in its concept. Geographical barriers influence it less than any other form of transport. The chief impediments to its development are man-made—customs, immigration, etc.

2. Commercial aviation, for all its international flavor externally, nevertheless has so many national attributes that its ideal development will be influenced

* See *Bermuda Air Pact* in February, 1946. AIR TRANSPORTATION.

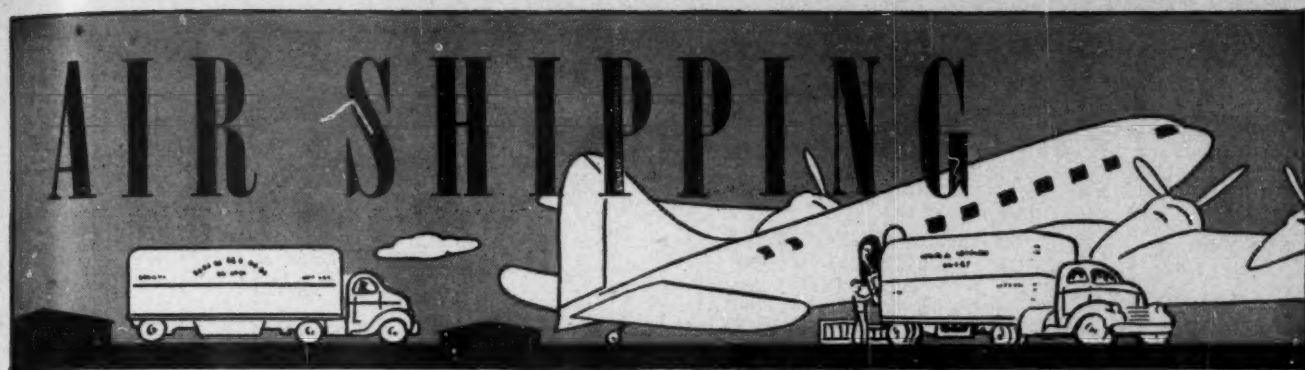
by national considerations for many years to come.

3. With all the complexities bound up in its expansion, aviation offers to the world something quite new in the promotion of trade and good-fellowship. In the next 15 years we are going to see speeds multiplied 10 times, costs halved, travel figures soaring upwards to undreamed of proportions.

For all its complexities aviation offers the most fascinating prospects of any single subject in the world today. It offers opportunities for more good in the world than has yet been realized. The fact is that aviation as a technical and psychological subject is way ahead of human politics anywhere.

I am optimistic enough to believe that aviation will bring about an advance in international thinking, and in doing so will confer on mankind benefits which will wipe out those evil scores which aviation has stacked up for itself during two wars.

Indeed, I see that old motto, *Comites Inter Gentes*, coming about by international aviation more certainly, and more quickly, than through any other subject of the day.



[REG. U. S. PAT. OFF.]

International Express and Mail Tables

Air express rates quoted are from U. S. International airport of departure (U. S. Gateway) and are based on the prevailing tariffs, airport to airport (see note); also see note for Airfreight rates. Shippers are warned, however, that these are subject to change.

GATEWAY SYMBOLS

Ab—Bangor, Me. Lg—Los Angeles
Br—Brownsville, Tex. Lo—Laredo
Bo—Boston, Mass. Mia—Miami
Ch—Chicago No—New Orleans
Cu—Cuba, Mont. Nk—New York
Di—Dallas Ph—Philadelphia
El—El Paso Sa—San Antonio
Ft—Fort Worth Sf—San Francisco
Gr—Grand Forks, N. D. Sq—San Diego
Jg—Jackson, Vi. Se—Seattle
Wa—Washington, D.C.

International Air Express is subject to two charges: one a charge per pound weight or measurement at carrier's option (200 cu. in. to the pound of weight), the other a charge per \$100 of valuation. The two must be added on any shipment to determine the cost. Neither includes insurance, which may be purchased by the shipper from the carrier or otherwise.

Priorities: The air carriers warn all shippers that express traffic, both U. S. Government and commercial, is so heavy that no guarantee can be given that any shipment will depart on any particular plane unless it enjoys U. S. priority. Otherwise it will depart, in relation to other shipments,

in the order received at the international airport used, subject to wartime limitations. Pickup service without extra charge is available for all international air express, except shipments routed through American Overseas Airlines. For shipments forwarded via Pan American Airways, a "Shipper's Letter of Instructions" is prepared and accompanies shipment to local REA office, where the PAA Airwaybill is prepared. (On cargoes to be shipped via American Overseas Airlines, Inc., shippers should contact "Shipper's Service," 100 East 42nd Street, New York 17, N. Y. LExington 2-5700.)

International air carriers whose schedules are rates are included here are indicated by the letter following the symbol for the airport.

AIRLINE SYMBOLS

A—American Airlines
AO—American Overseas Airlines
B—Braniff Airways
C—Colonial Air Lines
EA—Expreso Aereo Inter-Americano
K—KLM-Royal Dutch Airlines
NE—Northeast Airlines
NW—Northwest Airlines
P—Pan American Airways System and affiliates
T—Trans-Canada Air Lines
TA—TACA
TW—Transcontinental & Western Air
U—United Air Lines
W—Western Air Lines

Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.
		Per Lb.	Per \$100 Value		

NOTE: Per pound rate shown in this column is based on the average package weighing 25 lbs., i.e., 1 lb. package from New York to Ontario would cost \$1 or 25 lbs. \$4. Average cost per lb., 16¢. Valuation rates are only due if consignments are shipped with declared value. American Airlines offers lower rates per pound on shipments weighing 50 pounds and over. The valuation charge shown for AA and AOA is only applicable on shipments with a valuation of over \$7.71 per pound. For further information, contact AA or AOA.

* British Overseas Airways Corp. carries from Farnes, Ireland, to destinations in England, Scotland, and Wales.
† Canadian air express is carried on the same basis as air express within the U. S.: \$50 declared value free; excess charged at 10 cents per \$100 or fraction thereof.

LATIN AMERICAN ROUTES

Amalf, Colombia.....	Mia P	.77	.32	Su,T,Th,Sa	.15
"	Bro P	1.15	.43	Su,M,W,Sa	.15
"	No P	1.11	.43	Su,M,W,Sa	.15
"	Lgs P	1.44	.43	Su,T,F,Sa	.15
Andagoya, Colombia.....	Mia P	.81	.32	Su	.15
"	No P	1.12	.43	F	.15
"	Bro P	1.15	.43	F	.15
"	Lgs P	1.42	.43	Th	.15
Antigua, B.W.I.....	Mia P	.61	.32	Dly	.10
"	Nyk P	.56	.32	Dly	.10
"	No P	.96	.32	Dly	.10
"	Bro P	1.10	.43	Dly	.10
"	Lgs P	1.35	.43	Dly	.10
Antilla, Cuba.....	Mia P	.24	.15	Dly	.08
Antofagasta, Chile.....	Mia P	1.26	.43	Dly	.20
"	No P	1.34	.43	Dly	.20
"	Bro P	1.34	.43	Dly	.20
"	Lgs P	1.56	.43	Dly	.20
Arcaju, Brazil.....	Mia P	1.26	.43	T,Th,Sa	.20
"	Nyk P	1.55	.43	Su,T	.20
"	Bro P	1.60	.43	Su,T	.20
"	Lgs P	1.90	.43	M,Sa	.20
Arequipa, Peru.....	Mia P	1.16	.43	Dly	.15
"	No P	1.26	.43	Dly	.15
"	Bro P	1.26	.43	Dly	.15
"	Lgs P	1.51	.43	Dly	.15
Arica, Chile.....	Mia P	1.19	.43	Dly	.20
"	No P	1.26	.43	Dly	.20
"	Bro P	1.26	.43	Dly	.20
"	Lgs P	1.53	.43	Dly	.20

Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.
		Per Lb.	Per \$100 Value		

Armenia, Colombia.....	Mia P	.81	.32	Dly	.15
"	No P	1.04	.32	Dly	.15
"	Bro P	1.04	.32	Dly	.15
"	Lgs P	1.34	.43	Dly	.15
Aruba, N. W. I.....	P	via Curacao	ao, N.W.I.		
"	Mia K	.49	.32	Dly	.10
Asuncion, Paraguay.....	Mia P	1.53	.43	Su,T,F	.20
"	Nyk P	1.77	.43	Su,T,F	.20
"	No P	1.75	.43	Su,W,F	.20
"	Bro P	1.86	.43	Su,W,F	.20
"	Lgs P	2.19	.43	T,Th,Sa	.20
Ayapel, Colombia.....	Mia P	.67	.32	T,Th	.15
"	No P	1.04	.32	M,F	.15
"	Bro P	1.14	.43	M,F	.15
"	Lgs P	1.41	.43	Su,Th	.15
Bahia, Brazil (See Sao Salvador)					
Balboa, Canal Zone.....	Mia P	.55	.32	Dly	.10
"	MiaTA	.76	.20	Frequently	.10
"	No P	.82	.32	Dly	.10
"	Bro P	.86	.32	Twice Dly	.10
"	Lgs P	1.15	.43	Dly	.10
Baracoa, Cuba.....	Mia P	.28	.17	Dly	.08
Barcelona, Venezuela.....	Mia P	.66	.32	Dly	.15
"	Nyk P	.82	.32	Dly	.15
"	No P	1.02	.32	Dly	.15
"	Bro P	1.12	.43	Dly	.15
"	Lgs P	1.36	.43	Dly	.15
Barranca, Bermeja, Col.	Mia P	.75	.32	Su,T,W,F,Sa	.15
"	No P	1.12	.43	Su,M,Th,F	.15
"	Bro P	1.20	.43	Su,M,Th,F	.15
"	Lgs P	1.49	.43	Su,W,Th,Sa	.15
Barranquilla, Colombia.....	Mia K	.58	.32	M,F	.15
"	Mia P	.49	.32	Twice Dly	.15
"	Bro P	.96	.32	Dly	.15
"	No P	.86	.32	Dly	.15
"	Lgs P	1.23	.43	Su,W,Sa	.15
Bauru, Brazil.....	Nyk P	1.67	.43	T,F,Sa	.20
"	No P	1.60	.43	M,Th,Sa	.20
"	Bro P	1.71	.43	M,Th,Sa	.20
"	Lgs P	2.05	.43	Su,W,Th	.20
Bayamo, Cuba.....	Mia P	.24	.15	Dly	.08

Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.
		Per Lb.	Per \$100 Value		
Belem, Brazil.....	Mia P	1.09	.43	Twice Dly	.20
"	Nyk P	1.20	.43	Dly	.20
"	MiaTA	1.09	.43	Frequently	.20
"	No P	1.33	.43	Dly	.20
"	Bro P	1.34	.43	Dly	.20
"	Lgs P	1.58	.43	Dly	.20
Belise, Br. Hond.....	MiaTA	.41	.20	Frequently	.10
Bello-Horizonte, Brazil.....	Mia P	1.44	.43	Dly	.20
"	Nyk P	1.64	.43	Dly	.20
"	No P	1.56	.43	Dly	.20
"	Bro P	1.69	.43	Dly	.20
"	Lgs P	1.99	.43	Dly	.20
Bluefield, Nicaragua.....	MiaTA	.60	.20	Frequently	.10
Bogota, Colombia.....	Mia P	.77	.32	Twice Dly	.15
"	No P	1.08	.43	Dly	.15
"	Bro P	1.11	.43	Dly	.15
"	Lgs P	1.38	.43	Dly	.15
Bonair, N. W. I.....	P	via Curacao	ao, N.W.I.		
"	Mia K	.55	.32	M,T,Th,F,Sa	.10
Bonanza, Nicaragua.....	MiaTA	.61	.20	Frequently	.10
Bucaramanga, Colombia.....	Mia P	.75	.32	Su,W,F	.15
"	No P	1.12	.43	Su,M,Th,F	.15
"	Bro P	1.20	.43	Su,M,Th,F	.15
"	Lgs P	1.48	.43	Su,W,Th,Sa	.15
Buenaventura, Col.....	Mia P	.84	.32	T,Th	.15
"	No P	1.19	.43	F	.15
"	Bro P	1.20	.43	F	.15
"	Lgs P	1.52	.43	Th	.15
Buenos Aires, Argentina.....	Mia P	1.56	.43	Twice Dly	.20
"	Nyk P	1.84	.43	Dly	.20
"	No P	1.62	.43	Dly	.20
"	Bro P	1.65	.43	Dly	.20
"	Lgs P	1.95	.43	Dly	.20
Caibarien, Colombia.....	Mia P	.22	.15	Dly	.15
Call, Colombia.....	Mia P	.71	.32	Dly	.25
"	No P	.94	.32	Dly	.25
"	Bro P	.97	.32	Dly	.25
"	Lgs P	1.24	.43	Dly	.25
Camaguey, Cuba.....	Mia P	.18	.15	Seven Dly	.08
"	Mia K	.14	.15	M,Th	.08
Campeche, Mexico.....	Mia P	.39	.17	Dly	.05
"	No P	.35	.17	Dly	.05
"	Bro P	.49	.32	Dly	.05
"	Lgs P	.89	.32	Dly	.05
Campo Grande, Brazil.....	Mia P	1.48	.43	Su,W,Sa	.20
"	Nyk P	1.75	.43	T,F,Sa	.20
"	No P	1.61	.43	M,Th,F	.20
"	Bro P	1.60	.43	M,Th,F	.20
"	Lgs P	2.15	.43	Su,W,Th	.20
Canavieiras, Brazil.....	Mia P	1.33	.43	Sa	.20
"	Nyk P	1.63	.43	Th,Sa	.20
"	No P	1.56	.43	Th	.20
"	Bro P	1.69	.43	Th	.20
"	Lgs P	1.99	.43	W	.20
Caracas, Venezuela (See La Guaira)					
Caravelas, Brazil.....	Mia P	1.36	.43	T,W,F,Sa,Sa	.20
"	Nyk P	1.64	.43	Su,T,W,F,Sa	.20
"	No P	1.59	.43	S,M,W,Th,F	.20
"	Bro P	1.73	.43	Su,M,W,Th,F	.20
"	Lgs P	2.03	.43	Su,T,W,Th,Sa	.20
Catagena, Colombia.....	Mia P	.58	.32	Dly	.15
"	No P	.95	.32	Dly	.15
"	Bro P	1.05	.32	Dly	.15
"	Lgs P	1.32	.43	Dly	.15
Cartage, Colombia.....	Mia P	.60	.32	Dly	.15
"	No P	1.03	.32	Dly	.15
"	Bro P	1.06	.32	Dly	.15
"	Lgs P	1.33	.43	Dly	.15
Cat Cay, Bahamas.....	Mia P	.10	.15	M,Th,Sa	.15
Cayenne, Fr. Guiana.....	Nyk P	.97	.32	Dly	.15
"	No P	1.07	.43	Dly	.15
"	Bro P	1.23	.43	Dly	.15
"	Lgs P	1.26	.43	Dly	.15
"	No P	1.51	.43	Dly	.15
Cayo Mambi, Cuba.....	Mia P	.26	.17	Dly	.05
Chetumal, Mexico.....	Mia P	.45	.17	M,W,F	.05
"	No P	.43	.17	M,W,F	.05
"	Bro P	.55	.32	Su,T,Th	.05
"	Lgs P	.93	.32	M,W,Sa	.05
Chiclayo, Peru.....	Mia P	.94	.32	Dly	.15
"	No P	1.14	.43	Dly	.15
"	Bro P	1.17	.43	Dly	.15
"	Lgs P	1.40	.43	Dly	.15
Cienfuegos, Cuba.....	Mia P	.20	.15	Dly	.08

INTERNATIONAL EXPRESS AND MAIL TABLES—Continued

Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.	Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.	Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.			
		Per Lb.	Per \$100 Value					Per Lb.	Per \$100 Value					Per Lb.	Per \$100 Value					
Cienaga, Colombia	Mia P	.58	.32	Dly	15	Guatemala City, Gu.	Mia P	.57	.32	Dly	10	Maturin, Venezuela	Mia P	.67	.33	Dly	15			
"	No P	.95	.32	Dly	15	"	MiaTA	.48	.20	Frequently	10	"	Nyk P	.78	.32	Dly	15			
"	Bro P	1.05	.32	Dly	15	"	No P	.49	.32	Twice Dly	10	"	No P	1.04	.32	Dly	15			
"	Lgs P	1.32	.43	Dly	15	"	Bro P	.53	.32	Twice Dly	10	"	Bro P	1.15	.43	Dly	15			
C. del Carmen, Mexico	Mia P	.43	.17	Twice Dly	05	Guayaquil, Ecuador	Lgs P	.90	.43	Dly	10	"	Lgs P	1.38	.43	Dly	15			
"	No P	.41	.17	Dly	05	"	Mia P	.85	.32	Dly	15	"	No P	.47	.32	Dly	15			
"	Bro P	.44	.17	Dly	05	"	No P	1.05	.32	Dly	15	"	Lgs P	.45	.17	Dly	15			
"	Lgs P	.85	.32	Dly	05	"	Bro P	1.07	.43	Dly	15	"	Mia P	.73	.32	Dly	15			
Ciudad Trujillo, D. R.	Mia P	.33	.17	Twice Dly	10	Havana, Cuba	Lgs P	1.33	.43	Dly	15	"	No P	1.02	.32	Dly	15			
"	Mia TA	.43	.20	Frequently	10	"	Mia P	.12	.15	Several Dly	08	"	Bro P	1.06	.32	Dly	15			
"	Nyk P	.53	.32	Dly	10	"	Mia EA	.12	.15	Thrice Dly	08	"	Lgs P	1.35	.43	Dly	15			
"	Mia K	.58	.32	T	10	"	Mia TA	.12	.15	Frequently	08	"	Mia P	1.41	.43	Dly	15			
Ciudad Victoria, Tamps.	DI B	.30	.17	Dly	05	Hermosillo, Mexico	Lgs P	.24	.15	Dly	05	"	No P	1.52	.43	Dly	15			
"	Fv B	.30	.17	Dly	05	Holguin, Cuba	Mia P	.22	.15	Dly	08	"	Bro P	1.53	.43	Dly	15			
"	Lo B	.16	.15	Dly	05	Honda, Colombia	Mia P	.80	.32	Dly	15	"	Lgs P	1.77	.43	Dly	15			
"	Sa B	.23	.17	Dly	05	"	No P	1.13	.43	Dly	15	"	Mia P	.35	.17	Twice Dly	15			
"	Bro P	.20	.15	Dly	05	"	Bro P	1.17	.43	Dly	15	"	No P	.31	.17	Twice Dly	15			
Cochabamba, Bolivia	Mia P	1.26	.43	M,W,Sa	20	Iguazu Falls, Brasil	Lgs P	1.46	.43	Dly	15	"	Bro P	.53	.32	Dly	15			
"	No P	1.35	.43	Su,T,F	20	"	Mia P	1.51	.43	Su,T	20	"	Lgs P	.92	.32	Dly	15			
"	Bro P	1.35	.43	Su,T,F	20	"	Nyk P	1.75	.43	Su,T	20	"	DI B	.56	.32	Dly	15			
"	Lgs P	1.56	.43	M,Th,Sa	20	"	No P	1.69	.43	Su,F	20	"	Fv B	.56	.32	Dly	15			
Concepcion, Bolivia	Mia P	1.31	.43	Sa	20	"	Bro P	1.84	.43	Su,F	20	"	Lo B	.42	.32	Dly	15			
"	No P	1.45	.43	F	20	"	Lgs P	2.14	.43	Th,Sa	20	"	Sa B	.49	.32	Dly	15			
"	Bro P	1.45	.43	F	20	Ipiales, Colombia	Mia P	.89	.32	Dly	15	"	Lgs P	.12	.15	Dly	15			
"	Lgs P	1.62	.43	F	20	"	No P	1.12	.43	Dly	15	"	Mia P	.64	.32	Twice Dly	15			
Condoto, Colombia	Mia P	.81	.32	Su	15	"	Bro P	1.15	.43	Dly	15	"	No P	.61	.32	Dly	15			
"	No P	1.12	.43	F	15	"	Lgs P	1.42	.43	Dly	15	"	DI B	.36	.17	Dly	15			
"	Bro P	1.15	.43	F	15	Istmina, Colombia	Mia P	.81	.32	Sa	15	"	Lgs A	.39	.15	Dly	15			
"	Lgs P	1.42	.43	Th	15	"	No P	1.12	.43	F	15	"	Lgs P	.64	.27	Dly	15			
Cordoba, Argentina	Mia P	1.46	.43	Dly	20	"	Bro P	1.15	.43	F	15	"	Lo B	.24	.17	Dly	15			
"	No P	1.53	.43	Dly	20	Istepec, Mexico	Lgs P	1.42	.43	Th	15	"	Fv B	.36	.17	Dly	15			
"	Bro P	1.56	.43	Dly	20	"	Mia P	.68	.32	M,T,W,Th	15	"	Fv A	.26	.15	Dly	15			
"	Lgs P	1.85	.43	Dly	20	"	No P	.64	.32	F,Sa	05	"	Sa A	.26	.15	Dly	15			
Coro, Venezuela	Mia P	.62	.32	Dly	15	"	Bro P	.36	.17	Sa,T,W,Th	05	"	Sa B	.30	.17	Dly	15			
"	Nyk P	.88	.32	Dly	15	"	Lgs P	.81	.32	Sa,T,W,Th	05	"	Mia P	.51	.32	Dly	15			
"	No P	.96	.32	Dly	15	Joao Pessoa (Cabedello)	Mia P	1.25	.43	Sa	20	"	No P	.47	.32	Dly	15			
"	Bro P	1.04	.32	Dly	15	"	Nyk P	1.47	.43	Th	20	"	Bro P	.36	.17	Dly	15			
"	Lgs P	1.30	.43	Dly	15	"	No P	1.49	.43	Th	20	"	Lgs P	.79	.32	Dly	15			
Corozal, Colombia	Mia P	.65	.32	Dly	15	"	Bro P	1.55	.43	Th	20	"	Mia P	.66	.32	Dly	15			
"	No P	1.02	.32	Dly	15	"	Lgs P	1.82	.43	W	20	"	No P	1.03	.32	Dly	15			
"	Bro P	1.12	.43	Dly	15	Kingston, Jamaica	Mia P	.28	.17	Dly	10	"	Bro P	1.13	.43	Dly	15			
"	Lgs P	1.39	.43	Dly	15	"	Mia K	.26	.17	Su,T,W,F,Sa	15	"	Lgs P	1.40	.43	Dly	15			
Curumba, Brasil	Mia P	1.36	.43	Su,W	20	"	Nyk P	.53	.20	Frequently	10	"	No P	.47	.32	Dly	15			
"	No P	1.48	.43	M,F	20	La Ceiba, Honduras	Mia TA	.53	.20	Frequently	10	"	Bro P	.36	.17	Dly	15			
"	Bro P	1.50	.43	M,F	20	"	Mia P	.65	.32	Dly	15	"	Lgs A	.31	.15	Dly	15			
"	Lgs P	1.69	.43	Su,Th	20	La Guaira, Venezuela	Mia K	.73	.32	Dly	10	"	Lo B	.13	.15	Dly	15			
Cristobal, Canal Zone	Mia P	.57	.32	Dly	10	"	Nyk P	.58	.32	Dly	15	"	Sa A	.09	.15	Dly	15			
"	No P	.83	.32	Dly	10	"	No P	.98	.32	Dly	15	"	Sa B	.20	.15	Dly	15			
"	Bro P	.86	.32	Dly	10	"	Bro P	1.09	.43	Dly	15	"	Mia P	1.53	.43	Dly	15			
"	Lgs P	1.15	.43	Dly	10	"	Lgs P	1.30	.43	Dly	15	"	Nyk P	1.82	.43	Dly	15			
Cucuta, Colombia	Mia P	.75	.32	Dly	15	La Gloria, Colombia	Mia P	.72	.32	Su,T,F	15	"	No P	1.65	.43	Dly	15			
"	No P	1.12	.43	Dly	15	"	No P	1.09	.43	Su,M,F	15	"	Bro P	1.68	.43	Dly	15			
"	Bro P	1.20	.43	Dly	15	"	Bro P	1.19	.43	Su,M,F	15	"	Lgs P	1.98	.43	Dly	15			
"	Lgs P	1.49	.43	Dly	15	La Paz, Bolivia	Lgs P	1.46	.43	Su,Th,Sa	15	"	Mia P	1.24	.43	T	20			
Cuenca, Ecuador	Mia P	.86	.32	M,Su,W,F	15	"	Mia P	1.22	.43	M,T,W,F,Sa	20	"	Nyk P	1.41	.43	T	20			
"	No P	1.06	.32	Su,T,Th,Sa	15	"	No P	1.30	.43	M,T,Th,F,Sa	20	"	No P	1.46	.43	Su	20			
"	Bro P	1.10	.43	Su,T,Th,Sa	15	"	Bro P	1.30	.43	M,T,Th,F,Sa	20	"	Bro P	1.63	.43	Su	20			
"	Lgs P	1.35	.43	M,W,F,Sa	15	"	Lgs P	1.54	.43	Su,M,W,Th,F	20	"	Lgs P	1.76	.43	Sa	20			
Curacao, N.W.I.	Mia P	.55	.32	Dly	10	Libertad, Nicaragua	Mia TA	.58	.20	Frequently	10	Nassau, Bahamas	Mia P	.10	.15	Twice Dly	10			
"	Nyk P	.74	.32	Dly	10	"	Mia P	1.05	.32	Dly	15	"	Natal, Brasil	Mia P	1.25	.43	Dly	15		
"	No P	.83	.32	Dly	10	"	No P	1.24	.43	Dly	15	"	Nyk P	1.45	.43	Dly	15			
"	Bro P	1.07	.43	Dly	10	"	Bro P	1.24	.43	Dly	15	"	No P	1.48	.43	Dly	15			
"	Lgs P	1.33	.43	Dly	10	"	Lgs P	1.46	.43	Dly	15	"	Bro P	1.54	.43	Dly	15			
Curitiba, Brasil	Mia P	1.49	.43	T,Su,W	10	"	"	"	"	"	"	"	Lgs P	1.80	.43	Dly	15			
"	Nyk P	1.68	.43	Su,T,W	20	Limon, Costa Rica	Mia TA	.64	.20	Frequently	10	"	"	"	"	"	Dly	15		
"	No P	1.60	.43	Dly exc. T	20	Loja, Ecuador	Mia P	.89	.32	T	15	"	"	"	"	"	"	Dly	15	
"	Bro P	1.75	.43	Dly exc. T	20	"	No P	1.09	.43	M	15	"	"	"	"	"	"	Dly	15	
"	Lgs P	2.06	.43	Dly exc. W	20	"	Bro P	1.12	.43	M	15	"	"	"	"	"	"	Dly	15	
David, Panama	Mia P	.60	.32	Dly	10	"	Lgs P	1.36	.43	Su	15	"	"	"	"	"	"	Dly	15	
"	MiaTA	.60	.20	Frequently	10	Lorica, Colombia	Mia P	.66	.32	Su,T,W	15	"	"	"	"	"	"	"	Dly	15
"	No P	.76	.32	Dly	10	"	No P	1.03	.43	F	15	"	"	"	"	"	"	"	Dly	15
"	Bro P	.81	.32	Dly	10	"	Bro P	1.13	.43	P	15	"	"	"	"	"	"	"	Dly	15
"	Lgs P	1.10	.43	Dly	10	"	Lgs P	1.40	.43	Th	15	"	"	"	"	"	"	"	Dly	15
El Banco, Colombia	Mia P	.67	.32	M,W,Sa	15	"	Mia P	1.26	.43	Dly	20	"	"	"	"	"	"	"	Dly	15
"	No P	1.04	.32	Su,M,F	15	Maceio, Brasil	Nyk P	1.52	.43	Dly	20	"	"	"	"	"	"	"	Dly	15
"	Bro P	1.1																		

INTERNATIONAL EXPRESS AND MAIL TABLES—Continued

Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.	Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.	Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per 1/2 Oz.
		Per Lb.	Per \$100 Value					Per Lb.	Per \$100 Value					Per Lb.	Per \$100 Value		
Palo, Colombia	Mia P	73	32	Su, T, W	15	Santa Cruz, Bolivia	Mia P	1.23	43	M, W, Sa	20	Victoria de las Tunas, Cuba	Mia P	.32	15	Dly	.05
"	No P	1.10	43	M, T, Sa	15	"	No P	1.43	43	Su, T, F	20	Villahermosa, Mexico	Mia P	.47	32	Dly	.05
"	Bro P	1.20	43	M, T, Sa	15	"	Bro P	1.43	43	Su, T, F	20	"	No P	.43	17	Dly	.05
"	Lgs P	1.47	43	Su, M, F	15	"	Lgs P	1.50	43	M, Th, Sa	20	"	Bro P	.40	17	Dly	.05
Pereira, Colombia	Mia P	.80	32	Dly	15	Santa Fe (Isle of Pines), Cuba	Mia EA	.50	32	Twice Dly	.08	"	Lgs P	.83	32	Dly	.05
"	No P	1.03	32	Dly	15	"	No P	.96	32	Dly	15	"	Mia P	.81	32	Dly	.15
"	Bro P	1.06	32	Dly	15	"	Bro P	1.06	32	Dly	15	"	No P	1.18	43	Dly	.15
"	Lgs P	1.33	43	Dly	15	"	Lgs P	1.33	43	Dly	15	"	Bro P	1.15	43	Dly	.15
Popayan, Colombia	Mia P	.80	32	Dly	15	Santiago, Chile	Mia P	1.38	43	Dly	20	"	Lgs P	1.43	43	Dly	.15
"	No P	1.03	32	Dly	15	"	No P	1.51	43	Dly	20	"	"	"	"	"	"
"	Bro P	1.06	32	Dly	15	"	Bro P	1.51	43	Dly	20	"	"	"	"	"	"
"	Lgs P	1.33	43	Dly	15	"	Lgs P	1.75	43	Dly	20	"	"	"	"	"	"
Port au Prince, Haiti	Mia P	.30	17	Dly	10	Santiago, Cuba	Mia P	.24	15	Thrice Dly	.08	"	"	"	"	"	"
"	No P	.31	17	M, Th	10	Sao Luis, Brazil	Mia P	1.16	43	Dly	20	"	"	"	"	"	"
"	Bro P	.63	32	Dly	10	"	No P	1.29	43	Dly	20	"	"	"	"	"	"
Port of Spain, Trinidad	Mia P	.67	32	Dly	10	"	Bro P	1.38	43	Dly	20	"	"	"	"	"	"
"	No P	.71	32	Su, W, Th	10	"	Lgs P	1.43	43	Dly	20	"	"	"	"	"	"
"	Bro P	.72	32	Frequently	10	"	Mia P	1.62	43	Dly	20	"	"	"	"	"	"
"	Lgs P	1.04	32	Dly	10	"	No P	1.44	43	Twice Dly	20	"	"	"	"	"	"
"	No P	1.18	43	Dly	10	"	Bro P	1.41	43	Frequently	20	"	"	"	"	"	"
"	Bro P	1.41	43	Dly	10	"	Lgs P	1.60	43	Dly	20	"	"	"	"	"	"
"	Lgs P	1.84	43	Dly	10	"	Mia P	1.90	58	Dly	20	"	"	"	"	"	"
Porto Alegre, Brazil	Mia P	1.51	43	Dly	20	"	No P	1.28	43	Dly	20	"	"	"	"	"	"
"	No P	1.62	43	Frequently	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.74	43	Dly	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	2.14	43	Dly	20	"	"	"	"	"	"	"	"	"	"	"	"
Porto Armuelles, Panama	Mia Ta	.60	20	Frequently	10	"	"	"	"	"	"	"	"	"	"	"	"
Porto Cabezas, Nic.	Mia Ta	.62	20	Frequently	10	"	"	"	"	"	"	"	"	"	"	"	"
Preston, Cuba	Mia P	.24	15	Dly	.08	"	"	"	"	"	"	"	"	"	"	"	"
Puebla, Puebla	Di B	.41	17	Dly	.08	"	"	"	"	"	"	"	"	"	"	"	"
"	Fu B	.41	17	Dly	.08	"	"	"	"	"	"	"	"	"	"	"	"
"	Lo B	.27	17	Dly	.08	"	"	"	"	"	"	"	"	"	"	"	"
"	Sa B	.34	17	Dly	.08	"	"	"	"	"	"	"	"	"	"	"	"
Puerto Suarez, Bolivia	Mia P	1.36	43	Sa	20	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	1.48	43	F	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.50	43	F	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.69	43	Th	20	"	"	"	"	"	"	"	"	"	"	"	"
Puerto Wilches, Col.	Mia P	.75	32	Su, T, F	15	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	1.12	43	Su, M, F	15	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.20	43	Su, M, F	15	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.49	43	Su, Th, Sa	15	"	"	"	"	"	"	"	"	"	"	"	"
Puntarenas, Costa Rica	Mia P	.63	20	Frequently	10	"	"	"	"	"	"	"	"	"	"	"	"
Quibdo, Colombia	Mia P	.77	32	Sa	15	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	1.14	43	F	15	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.19	43	F	15	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.46	43	Th	15	"	"	"	"	"	"	"	"	"	"	"	"
Quito, Ecuador	Mia P	.89	32	Th	15	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	1.09	43	Dly	15	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.09	43	Dly	15	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.36	43	Dly	15	"	"	"	"	"	"	"	"	"	"	"	"
Rafae (Pernambuco) Brazil	Mia P	1.26	43	Dly	20	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	1.48	43	Dly	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.50	43	Dly	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.56	43	Dly	20	"	"	"	"	"	"	"	"	"	"	"	"
Remedios, Colombia	Mia P	.79	32	Su, M, T, W, Th	15	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	1.15	43	Su, M, T, W, Sa	15	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.19	43	Su, M, T, W, Sa	15	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.48	43	Su, M, T, F, Sa	15	"	"	"	"	"	"	"	"	"	"	"	"
Rio de Janeiro	Mia P	1.41	43	Dly	20	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	1.54	43	Dly	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.64	43	Dly	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.94	43	Dly	20	"	"	"	"	"	"	"	"	"	"	"	"
Robore, Bolivia	Mia P	1.36	43	Sa	20	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	1.48	43	F	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.50	43	F	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.69	43	Th	20	"	"	"	"	"	"	"	"	"	"	"	"
Salinas, Ecuador	Mia P	.86	32	Th, Sa	15	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	1.06	32	W, F	15	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.10	43	W, F	15	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.35	43	T, Th	15	"	"	"	"	"	"	"	"	"	"	"	"
Salta, Argentina	Mia P	1.30	43	Su, T, F	20	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	1.45	43	M, Th, Sa	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.45	43	M, Th, Sa	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.64	43	Su, W, F	20	"	"	"	"	"	"	"	"	"	"	"	"
Sao Ignacio, Bolivia	Mia P	1.33	43	Sa	20	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	1.46	43	F	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.48	43	F	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.64	43	Th	20	"	"	"	"	"	"	"	"	"	"	"	"
Sao Jose, Bolivia	Mia P	1.35	43	Sa	20	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	1.48	43	F	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.49	43	F	20	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.67	43	Th	20	"	"	"	"	"	"	"	"	"	"	"	"
Sao Jose, Costa Rica	Mia P	.60	32	Dly	10	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	.71	32	Dly	10	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	.74	32	Twice Dly	10	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.06	32	Dly	10	"	"	"	"	"	"	"	"	"	"	"	"
Sao Juan, Puerto Rico	Mia P	.36	32	Thrice Dly	.05	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	.47	32	Dly	.05	"	"	"	"	"	"	"	"	"	"	"	"
Sao Marcos, Colombia	Mia P	.67	32	T, Th	15	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	1.04	32	M, W	15	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	1.14	43	M, W	15	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	1.41	43	Su, T	15	"	"	"	"	"	"	"	"	"	"	"	"
Sao Pedro, Sula, Hond.	Mia Ta	.53	20	Frequently	10	"	"	"	"	"	"	"	"	"	"	"	"
Sao Salvador, El Salvador	Mia P	.57	32	Dly	10	"	"	"	"	"	"	"	"	"	"	"	"
"	No P	.53	32	Twice Dly	10	"	"	"	"	"	"	"	"	"	"	"	"
"	Bro P	.57	32	Dly	10	"	"	"	"	"	"	"	"	"	"	"	"
"	Lgs P	.94	32	Dly	10	"	"	"	"	"	"	"	"	"	"	"	"
Santa Clara, Cuba	Mia EA	.20	15	Thrice Dly	.08	"	"	"	"	"	"	"	"	"	"	"	"

INTERNATIONAL EXPRESS AND MAIL TABLES—Continued

CANADIAN ROUTES					CANADIAN ROUTES—Continued					PACIFIC ROUTES—Continued							
Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per ½ Oz.	Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per ½ Oz.	Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per ½ Oz.
		Per Lb.	Per \$100 Value					Per Lb.	Per \$100 Value					Per Lb.	Per \$100 Value		
Calgary, Alb.	Nyk T	1.02	↑	Dly	.05	Toronto, Ont.	Nyk A	.16	↑	Dly	.05	Manila	Lgs P	2.00	.43	Sa	
Edmonton, Alb.	Nyk T	1.06	↑	Dly	.05	Vancouver, B. C.	Nyk T	.12	↑	Dly	.05	Midway	Lgs P	2.00	.43	M	
Halifax, N. S.	Nyk T	.31	↑	Dly	.05	Windsor, Ont.	Stc U	.03	↑	Dly	.05	Suva	Lgs P	1.18	.43	M	
Lethbridge, Alb.	Bw C	.31	↑	Dly	.05	Winnipeg, Man.	Nyk T	.96	↑	Dly	.05	Nouma	Lgs P	1.61	.43	Sa	
London, Ont.	Nyk T	.84	↑	Dly	.05		Nyk A	.20	↑	Dly	.05	Wake	Lgs P	1.61	.43	Sa	
Moncton, N. B.	Cub W	.04	↑	Dly	.05		Cg A	.12	↑	Dly	.05		Lgs P	1.83	.43	Sa	
Montreal, Que.	Nyk T	.18	↑	Dly	.05		Nyk T	.20	↑	Dly	.05		Lgs P	1.83	.43	Sa	
	BbNE	.08	↑	Dly	.05		GfNW	.04	↑	Dly	.05		Lgs P	1.26	.43	Sa	
	Nyk C	.12	↑	Dly	.05		Nyk T	.60	↑	Dly	.05		Lgs P	1.26	.43	M	
	Nyk T	.12	↑	Dly	.05	PACIFIC ROUTES					OFF-LINE SERVICE—EUROPE						
	Jg NE	.04	↑	Dly	.05	Auckland, N. Z.	Lgs P	2.14	.43	Sa	.50	Destination	Connecting Point and Airline	RATES (See Note)		Depart	Mail per ½ Oz.
North Bay, Ont.	Nyk T	.22	↑	Dly	.05	Canton Island	Stc P	2.14	.43	Sa	.50		Per Lb.	Min. Charge			
Ottawa, Ont.	Nyk T	.16	↑	Dly	.05	Guam	Lgs P	1.28	.43	Sa	.05	Brussels, Belgium	London P	.12	.52		
Regina, Sask.	Nyk T	.16	↑	Dly	.05	Honolulu, T. H.	Stc P	1.61	.43	M	.05	Geneva, Switzerland	London P	.31	1.36		
St. John, N. B.	Nyk T	.31	↑	Dly	.05		Lgs P	.71	.32	Lv	.05	Goteborg, Sweden	London P	.45	2.00		
St. John's, N. F.	Bw C	.31	↑	Dly	.05		Stc P	.71	.32	Lv	.05	Paris, France	London P	.15	.64		
Sydney, N. S.	Nyk T	.58	↑	Dly	.05		Lgs P	.71	.32	Twice Wkly	.05	Stockholm, Sweden	Shannon TW	.46	—		
	Bw C	.58	↑	Dly	.05		Stc P	.71	.32	Twice Wkly	.05	Zurich, Switzerland	London P	.54	2.40		
	Nyk T	.36	↑	Dly	.05		Lgs P	.71	.32	Twice Wkly	.05		London P	.33	1.40		
	Bw C	.36	↑	Dly	.05												

Note: Pan American Airways requires the prepayment of all charges, plus a fixed off-line deposit to cover costs of transshipment and forwarding to final destination of the shipment. This off-line deposit consists of poundage charges from London to final destination of shipment.

plus transshipment bonded entry fee in E. land, and trucking charge to airport of despatch in England. Transshipment bonded entry fee in England is as follows: one package or first package of a lot shipment—\$1.00; each additional package—\$.32; excess valuation charge on

shipments valued for carriage in the airwaybill in excess of U.S. \$400, for each additional \$400 (over the first \$400)—\$.32. Trucking charge to airport of despatch in England is \$.02 per pound, with no minimum charge.

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